



Singapore Standards Catalogue 2008/09

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(Information complete up till 31 December 2008 –
For the latest list of Singapore Standards, please refer to the Singapore Standards
eShop at: <http://www.singaporestandardseshop.sg>)

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SPRING SINGAPORE

Who we are

SPRING Singapore is the enterprise development agency for growing innovative companies and fostering a competitive SME sector. We work with partners to help enterprises in financing, capabilities and management development, technology and innovation, and access to markets.

As the national standards and accreditation body, SPRING also develops and promotes internationally-recognised standards and quality assurance to enhance competitiveness and facilitate trade.

We provide support to enterprises in four areas:

Money

SPRING works closely with the Monetary Authority of Singapore and the financial services sector to catalyse financing programmes relevant for SMEs. The aim is to make available more options for SMEs at each stage of their growth.

Markets

To help SMEs access overseas market opportunities, SPRING works with IE Singapore and the Economic Development Board to facilitate overseas missions and link SMEs to overseas networks. SPRING's Export Technical Assistance Centre also helps companies understand standards and technical regulations to help them export overseas.

Management

With attraction and retention of talent being one of the key obstacles to growth for enterprises, SPRING launched the Business Leaders Initiative (BLI) to groom SME bosses, build management depth and develop a strong pipeline of future business leaders for SMEs.

Know-how

SPRING aims to nurture a group of homegrown innovative enterprises that can compete successfully in the global arena. Key programmes to help achieve this include the Technology Innovation Programme (TIP), the Intellectual Property Management (IPM) for SMEs Programme, the Design Engage Programme and the BrandPact Programme.

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SINGAPORE STANDARDISATION PROGRAMME

As the national standards body, SPRING Singapore works closely with industry to develop national standards. Under the guidance of an industry-led Standards Council, we actively promote and encourage companies to use and adopt Singapore Standards and other relevant standards in manufacturing products, services and management systems.

Where feasible, Singapore Standards are aligned with international standards to help Singapore's manufactured goods and exports gain entry into overseas. As of 31 December 2008, there are 697 Singapore Standards and 17 Technical References, of which, 158 standards have been aligned to international standards.

The standards alignment strategy supports Singapore's open trade policy and reduces the likelihood of standards becoming unnecessary technical barriers to trade. SPRING also helps to raise industry awareness and encourage the adoption of international standards which may be used by the local industry without modification.

In addition, we actively support and facilitate the development of new international standards by the Singapore industry to ensure that these standards do not hinder trade or limit market access. Currently, key industry players sit on 39 International Organization for Standardization (ISO) committees and 7 International Electrotechnical Commission (IEC) committees. Singapore also leads in 7 international standards committees.

What is the Standards Council?

The Standards Council is responsible for:

- Providing strategic directions for national standardisation;
- Mapping out the overall standardisation policies and priorities;
- Determining areas of work; and
- Providing the necessary guidance for the implementation of the Singapore Standardisation Programme.

For information on the structure of the Standards Council, refer to Figure 1.

What are Standards Committees?

Standards Committees are appointed by the Standards Council to develop Singapore Standards for and promote standardisation to the target industries. To ensure that all viewpoints are considered in the preparation of Singapore Standards, all committees consist of representatives from various interest groups, including professional bodies, industry associations, consumer bodies, trade associations, government agencies and tertiary institutions.

There are currently eight Standards Committees covering:

1. Building and construction,
2. Chemical,
3. Electrical and electronic,
4. Food manufacturing
5. General engineering and safety,
6. Information technology,
7. Management systems,
8. Medical technology and

For more information on the standardisation process, refer to Figure 2.

Note: The lists of members of the Standards Council and Standards Committees are available at the standards website at: <http://www.standards.org.sg>.

Figure 1

NATIONAL STANDARDISATION COMMITTEE FRAMEWORK (Term 1 April 2007 to 31 March 2010)

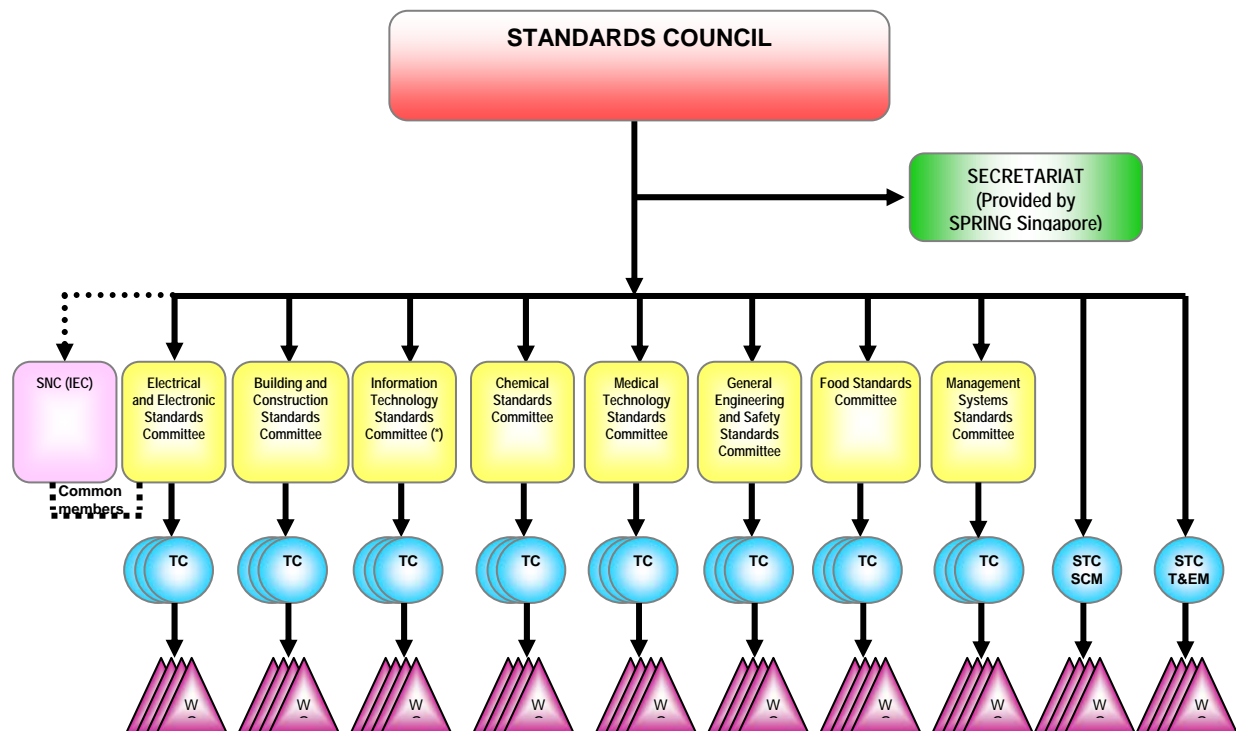
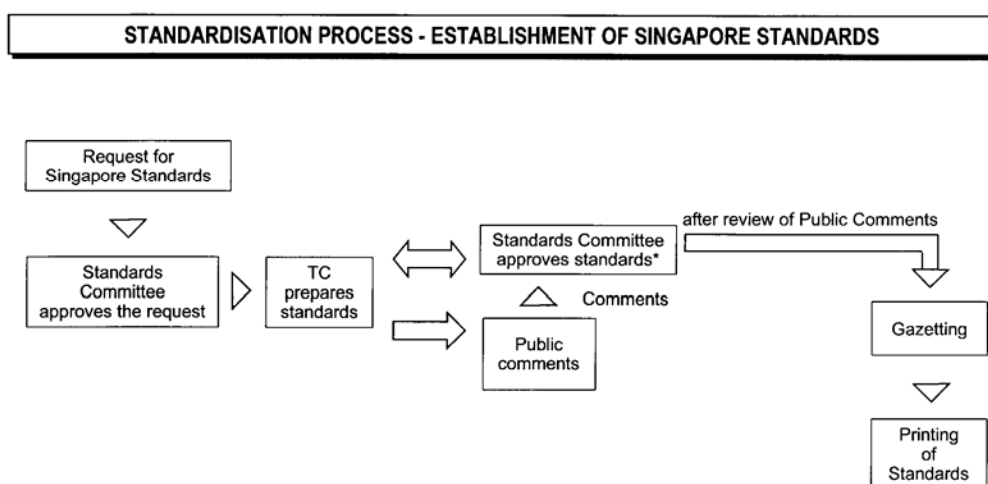


Figure 2



* Standards Council delegates to Standards Committees the authority to approve standards on its behalf.

Standards Implementation for Productivity (SIP) projects

Standards Implementation for Productivity (SIP) is a key initiative of the National Standardisation Programme to promote the implementation of standards which have a high impact on productivity and competitiveness.

SIP projects aim to help Singapore-based enterprises use Singapore Standards or other relevant standards that increase productivity; ultimately benefitting the entire industry. Assistance through co-funding is provided for some SIP projects.

Benefits to the industry may include cost savings, higher productivity, better quality products, enhancement to safety and health, improved connectivity to local/global partners, improved efficiency and effectiveness, all of which in turn translate to higher industry competitiveness.

DISTRIBUTION OF SINGAPORE STANDARDS

Printed copies of the Singapore Standards and Technical References are distributed to the libraries of the following organisations:

National University of Singapore
10 Kent Ridge Crescent
Singapore 119260

Ngee Ann Polytechnic
535 Clementi Road
Singapore 599489

Temasek Polytechnic
21 Tampines Avenue 1
Singapore 529757

Nanyang Technological University
50 Nanyang Avenue
Singapore 639798

Singapore Polytechnic
500 Dover Road
Singapore 139651

Institute of Technical Education
10 Dover Drive
Singapore 138683

Nanyang Polytechnic
180 Ang Mo Kio Avenue 8
Singapore 569830

COLLECTION OF OVERSEAS STANDARDS

The SPRING Singapore Information Resource Centre maintains for reference various standards catalogues and a collection of overseas standards such as those listed below :

INTERNATIONAL STANDARDS ORGANISATIONS			
Name	Symbol	Coverage	
		Complete*	Partial
International Electrotechnical Commission (IEC)	IEC	X	
International Organization for Standardisation (ISO)	ISO	X	

NATIONAL STANDARDS ORGANISATIONS					
Country	Name	Symbol	Coverage		Remarks
			Complete*	Partial	
Australia	Standards Australia (SA)	AS	X		
Canada	Standards Council of Canada (SCC)	CAN, CSA		X	
China	Standardization Administration of China (SAC)	GB	X		Available only in Chinese
France	Association francaise de normalisation (AFNOR)	NF		X	Available also in French
Germany	DIN Deutsches Institut fur Normung (DIN)	DIN		X	Available also in German
India	Bureau of Indian Standards (BIS)	IS		X	
Japan	Japanese Industrial Standards Committee (JISC)	JIS	X		Available only in English
Republic of Korea	Korean Agency for Technology and Standards (KATS)	KS		X	
Malaysia	Department of Standards Malaysia (DSM)	MS		X	
New Zealand	Standards New Zealand (SNZ)	NZ		X	
Philippines	Bureau of Product Standards (BPS)	PNS		X	
Saudi Arabia	Saudi Arabian Standards Organization (SASO)	SSA		X	
South Africa	South African Bureau of Standards (SABS)	SANS	X		
Sri Lanka	Sri Lanka Standards Institution (SLSI)	SLS		X	
Thailand	Thai Industrial Standards Institute (TISI)	TIS		X	
Trinidad & Tobago	Trinidad & Tobago Bureau of Standards (TTBS)	TTS		X	
UK	British Standards Institution (BSI)	BS	X		
USA	American National Standards Institute (ANSI)	ANSI		X	

STANDARDS DEVELOPING ORGANISATIONS			
Name	Symbol	Coverage	
		Complete*	Partial
American Bearing Manufacturers Association (ABMA)	ABMA		X
American Gear Manufacturers Association (AGMA)	AGMA		X
American Petroleum Institute (API)	API		X
American Society of Heating, Refrigerating & Air Conditioning Engineers (ASHRAE)	ASHRAE		X
American Water Works Association (AWWA)	AWWA		X
American Welding Society (AWS)	AWS		X
ASME International (ASME)	ASME		X
Association of Connecting Electronics Industries (IPC)	IPC		X
ASTM International (ASTM)	ASTM	X	
Bureau of Standards, Metrology and Inspection, MOEA, ROC (CNS)	CNS		X
Canada Government Specification Board (CGSB)	CGSB		X
Electronic Industries Alliance (EIA)	EIA		X
International Society of Automation (ISA)	ISA		X
NACE International	NACE		X
National Fire Protection Association (NFPA)	NFPA		X
Underwriters Laboratories Inc (UL)	UL		X
US Military Standards	MIL		X

For more information, please contact the Information Resource Centre of SPRING Singapore at Tel : (65) 6279 3920 [select option 2] or Fax : (65) 6377 0669.

<p align="center">SINGAPORE STANDARDS USED IN THE CONSUMER PROTECTION (SAFETY REQUIREMENTS) REGISTRATION SCHEME</p>
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Singapore Standards are being used by SPRING Singapore in the operation of its Consumer Protection (Safety Requirements) Registration Scheme. For the latest list of Singapore Standards used in this scheme, please refer to the website at: www.spring.gov.sg/safety.

SS 97 : -	Residual current operated circuit-breaker without integral overcurrent protection for household and similar uses (RCCBs)
	Part 1 : 2005 General rules
SS 145 : -	13A plugs and socket outlets
	Part 1 : 1997 Rewirable and non-rewirable 13A fused plugs
	Part 2 : 1997 13A switched and unswitched socket-outlets
SS 146 : -	Safety of household and similar electrical appliances
	Part 1 : 2004 General requirements
	Part 2 : 5 : 2007 Particular requirements for instantaneous water heaters
	Part 2 : 8 : 2007 Particular requirements for storage water heaters
SS 167 : 1977	General purpose fuse links for domestic and similar purposes (primarily for use in plugs)
SS 227 : -	Switches for household and similar fixed-electrical installations
	Part 1 : 2000 General requirements
SS 233 : 1996	Flexible rubber tubing, rubber hose and rubber hose assemblies for use in LPG vapour phase installations
SS 246 : 2004	Fused and unfused adaptors
SS 281 : 1984(1989)	Pressure regulators for liquefied petroleum gases
SS 294 : 1998	Valves for use with domestic and industrial liquefied petroleum gas (LPG) cylinders
SS 307 : 1996	Portable cable reels for domestic and similar purposes
SS 360 : 1992	Performance and construction of electric circulating fans and regulators
SS 400 : 1997	LP gas and non-refillable gas canisters for portable gas cookers
SS 401 : 1997	Portable gas cookers - General specifications and test methods
SS 472 : 1999	15A plugs and switched socket-outlets for domestic and similar purposes

For more information on the Consumer Protection (Safety Requirements) Registration Scheme, please visit the CPS website above or contact CPS at tel: (65) 1800-7733163 or fax: (65) 6278 9885 or e-mail: safety@spring.gov.sg.

HOW TO USE THE CATALOGUE

Choose the right index for your needs.

Numerical List

- If you want to check the details of a known standard whose reference number you already know, use the Numerical List of Singapore Standards.

Example

To find SS 444

- Go to SS 444 in the Numerical List of Singapore Standards
- Follow the numerical sequence to find SS 444

Alphabetical Index

- If you have a very specific requirement and you believe there is an existing standard, use the Alphabetical Index

Example

To find a standard on fire safety signs

- Turn to the Alphabetical Index and under *Signs*, look for *fire safety*, 508
- The entry will show you the reference number of the standard
- Go to SS 508 in the Numerical List of Singapore Standards

International Classification for Standards (ICS) Index

- If you are unsure if a standard exists, use the International Classification for Standards (ICS) Index.

Example

To find standards on quality management and quality assurance

- Turn to the ICS Index. Browse through the list to identify the appropriate heading
- Select major topic : 03 SOCIOLOGY. SERVICES. COMPANY ORGANISATION AND MANAGEMENT. ADMINISTRATION. TRANSPORT
- Select subsidiary topic 03.120 Quality, then select 03.120.10 Quality management and quality assurance
- Browse through the entries in the Numerical List of Singapore Standards until the relevant publications are found

- Or, if you want to check the full range of standards on a particular topic, use the ICS Index.

NOTES ON THE CATALOGUE

SINGAPORE STANDARDS AND TECHNICAL REFERENCES

Singapore Standards (SS) are nationally recognised documents, established by consensus. They are functional or technical requirements in the form of specifications for materials, product system or process, codes of practice, methods of test, terminologies, guides etc. They can be applied in various industries, such as building and construction, electrical and electronic, chemical, food, IT, packaging, etc.

Singapore Standards provide the technical basis for achieving the productivity, quality, safety and reliability of a product, service or process.

Technical References (TR) are fast track documents that are developed to help meet industry demand for specifications or requirements on a particular product or process in the light of rapid changes and the absence of any reference standard. Unlike SS, TRs are issued without going through the full consensus process as the time taken could affect the relevance to market needs. After two years or for a period of time stipulated by SPRING Singapore, a review is made on its status, i.e. whether it should be adopted as a Singapore Standard, withdrawn or retained as a Technical Reference based on the feedback from industry application.

CURRENT INFORMATION

This Catalogue shows all SS and TRs as at 31 December 2008. It is important that users of Singapore Standards and TRs ascertain that they are in possession of the latest amendments or editions. Users who wish to be kept informed of the relevant amendments, revisions or withdrawals, can subscribe to the email updates at: <http://www.standards.org.sg>.

SUPERSEDED AND WITHDRAWN SS/TR

If a SS/TR has been superseded by another with a different SS/TR reference number, this information is shown against the title of the withdrawn standard/TR. The titles of withdrawn standards/TR are shown in light-face type. A withdrawn standard/TR is no longer effective but may, exceptionally, be considered for revival at a later date if the need arises.

REVISED STANDARDS/TRs

The revision of any SS/TR automatically supersedes all previous editions of the standard, or parts of the standard so revised unless otherwise indicated. Only the current issues are listed and considered as authorised Singapore SS/TR.

CONFIRMED STANDARDS/TR

SS/TR which have been reviewed by the respective technical committees and found to be still current and relevant to users are confirmed. This is indicated by the word "Confirmed" together with the year of confirmation in parenthesis at the end of the abstract.

AMENDMENTS

Amendments to current SS/TR are shown below the titles to which they apply. All amendments are included in any main SS/TR ordered.

When SS/TR are reprinted it is usual to embody all previously published amendments by suitable alterations to the text. Such amendments are identified in the standard by indication in the margin at the appropriate places on the amended pages.

ARCHIVED STANDARDS

Archived standards are standards that are not expected to change over time, and are still in use. A review would be initiated only upon a request from the industry or the standards committee. Archived standards are available for viewing at the Information Resource Centre, SPRING Singapore or for purchase from SNP.

OVERSEAS ADOPTION/ENDORSEMENT

Some Singapore Standards are adopted/endorsed from overseas standards (e.g. International Standards of the ISO, IEC, etc.) with or without national amendments. Those standards that are not printed in the Singapore Standards cover are indicated in the Catalogue by an asterisk (*). Singapore Standards which are adopted directly without change from ISO/IEC Standards are identified by the international standard number and "SS" acronym. These standards are listed separately based on the ISO/IEC numbering sequence.

SINGAPORE STANDARDS/TRs UNDER PRINTING

SS/TR in the course of printing are denoted by a cross mark (+).

PURCHASE OF SINGAPORE AND OVERSEAS STANDARDS

WHERE TO BUY

Singapore Standards:

- Singapore Standards eShop – <http://www.singaporestandardseshop.sg>
- SNP Corporation Pte Ltd, 1 Kim Seng Promenade, #18-01, Great World East Tower, Singapore 237994.
- Mail Order – Cheque made payable to 'SNP Corporation Pte Ltd'. Contact the SNP Corporation Pte Ltd for quotations and order delivery.

Overseas Standards:

Contact SNP Corporation Pte Ltd for quotations and order delivery.

Sales Contact:

Hotline: (65) 6826 9691
Fax: (65) 6820 3341
Email: singaporestandardseshop@snpcorp.com

Note: Overseas customers should check with the national standards bodies in their countries if they wish to purchase any Singapore or overseas standards.

PRICES OF SINGAPORE STANDARDS

The prices of Singapore Standards are indicated in this catalogue. The price group Y refers to Singapore Standards adopted/endorsed from other overseas standards. The prices of these standards are, therefore, dependent on the current prices of the overseas standards from which they are adopted. Purchasers of these standards will need to enquire about the stock availability and price before purchase.

The prices of Singapore Standards apply to Singapore only. Overseas purchasers should enquire of their national standards organisation the prices before purchase.

All prices of Singapore Standards are subject to change without prior notice.

Note: The prevailing Goods and Services Tax (GST) is applicable for supply of goods or services in Singapore only.

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NUMERICAL LIST OF SINGAPORE STANDARDS AND TECHNICAL REFERENCES

SPECIFICATIONS

SS 1 : 1984	Plywood (Withdrawn, August 2004. Refer directly to ISO standards on plywood)
SS 2 : -	<p>Steel for the reinforcement of concrete</p> <p>Part 1 : 1999 Plain bars (steel grade 300) 15pp S\$15.00</p> <p>Specifies requirements for plain reinforcement bars in steel grade 300 N/mm², applicable to steel without subsequent heat treatment.</p> <p>Part 2 : 1999 Ribbed bars (steel grade 500) Erratum No. 1, October 2000 20pp S\$21.00</p> <p>Specifies requirements for ribbed reinforcement bars in grade 500 N/mm², readily welded by conventional welding procedures and applicable to hot-rolled steel without subsequent treatment and to hot-rolled steel with controlled cooling and tempering.</p> <p>Part 3 : 1987 Plain and ribbed bars (steel grades 250 and 460) Erratum No. 1, June 2000 Amendment No. 1, August 2000 28pp S\$27.00</p> <p>Includes requirements and methods of test for hot rolled steel bars for the reinforcement of concrete in the weldable grades only. Covers plain round mild steel bars of grade 250 and high yield deformed bars of a new grade 460. Prescribes requirements for weldability of both grades of steel which are classified by the carbon equivalent values.</p>
SS 3 : 1970	<p>General safety requirements for domestic electrical appliances (Withdrawn, replaced by SS 146)</p> <p>Part A : 1970 Heating and cooking appliances</p> <p>Section A1 : 1970 Testing and approval of domestic electrical appliances - Electric irons</p> <p>Section A2 : 1970 Testing and approval of domestic electrical appliances - Electric kettles</p> <p>Section A3 : 1970 Testing and approval of domestic electrical appliances - Electric cookers</p>
SS 4 : 1970	Electrical refrigerators and food freezers for household use (Withdrawn, November 1998)
SS 5 : -	<p>Methods of test for paints, varnishes and related materials</p> <p>Part 0 : 2003 General introduction 14pp S\$15.00</p> <p>Part A1 : 2003 Sampling 25pp S\$27.00</p> <p>Part A2 : 2003 Examination and preparation of samples for painting 15pp S\$15.00</p> <p>Part A3 : 2003 Preparation of panels prior to painting 19pp S\$21.00</p>

Part A4 : 2003	Temperatures and humidities for conditioning and testing
11pp S\$ 15.00	
Part B1 : 2003	Determination of film thickness
38pp S\$34.00	
Part B2 : 2003	Determination of volatile and non-volatile matter
17pp S\$21.00	
Part B3 : 1987	Determination of water by the Dean and Stark method (Confirmed 2003)
7pp S\$11.00	
Part B4 : 2003	Condition in container
12pp S\$15.00	
Part B5 : 2003	Skinning (partially filled container)
10pp S\$15.00	
Part B6 : 1987	Storage stability (filled container) (Confirmed 2003)
6pp S\$11.00	
Part B7 : 2003	Density
18pp S\$21.00	
Part B8 : 1987	Reducibility and dilution stability (Confirmed 2003)
7pp S\$11.00	
Part B9 : 2003	Brushing properties
11pp S\$15.00	
Part B10 : 2003	Spraying properties
11pp S\$15.00	
Part B11 : 2003	Determination of viscosity by Ford viscosity cup
15pp S\$15.00	
Part B12 : 2003	Consistency of paints using the Stormer viscometer
18pp S\$21.00	
Part B13 : 2003	Fineness of grind
15pp S\$15.00	
Part B14 : 1987	Pigment content (centrifuge) (Confirmed 2003)
9pp S\$15.00	
Part B15 : 1987	Determination of flashpoint - closed cup equilibrium method (Confirmed 2003)
12pp S\$15.00	
Part B16 : 1987	Determination of viscosity by the Brookfield viscometer (Confirmed 2003)
9pp S\$15.00	
Part C1 : 1987	Qualitative test for rosin (Lieberman Storch) (Confirmed 2003)
5pp S\$11.00	
Part C2 : 1987	Determination of aluminium metal content (Confirmed 2003)
8pp S\$11.00	
Part C3 : 1987	Analysis of red lead in pigment (Confirmed 2003)
8pp S\$11.00	

Part C4 : 1988	Determination of low concentrations of mercury in paint by atomic absorption spectroscopy (Confirmed 2003)
10pp	S\$15.00
Part C5 : 1988	Determination of zinc chromate pigment content (from total chromium) (Confirmed 2003)
6pp	S\$11.00
Part C6 : 1988	Determination of low concentrations of lead, cadmium and cobalt in paint by atomic absorption spectroscopy (Confirmed 2003)
9pp	S\$15.00
Part C7 : 1989	Determination of total iron in inorganic pigments containing iron (Confirmed 2003)
8pp	S\$11.00
Part D1 : 2003	Wet edge time
10pp	S\$15.00
Part D2 : 2003	Surface-drying test (Ballotini method)
12pp	S\$15.00
Part D3 : 1988	Hard-drying time (Confirmed 2003)
Amendment No. 1, January 2003	
9pp	S\$15.00
Part D4 : 1988	No pick-up time (Confirmed 2003)
8pp	S\$11.00
Part D5 : 2003	Determination of through-dry state and through-dry time
15pp	S\$15.00
Part E1 : 2003	Measurement of specular gloss of non-metallic paint films at 20°, 60° and 85°
20pp	S\$21.00
Part E2 : 2003	Determination of contrast ratio (opacity) of paints at a fixed spreading rate using polyester film
Erratum No. 1, October 2005	
17pp	S\$21.00
Part E3 : 2003	Visual comparison of the colour of paints
18pp	S\$21.00
Part F1 : 2003	Bend test (cylindrical mandrel)
16pp	S\$15.00
Part F2 : 2003	Scratch test
17pp	S\$21.00
Part F3 : 2003	Abrasion resistance (Taber abrader)
12pp	S\$15.00
Part F4 : 1989	Abrasion resistance by falling abrasive (Confirmed 2003)
9pp	S\$15.00
Part F5 : 2003	Washability (wet abrasion) of emulsion paint
10pp	S\$15.00
Part G1 : 2003	Determination of resistance to continuous neutral salt spray
20pp	S\$21.00
Part G2 : 2003	Alkali resistance (spotting method)
10pp	S\$15.00

	Part G3 : 2003	Colour fastness to light (Xenon arc)
	21pp	S\$21.00
	Part G4 : 2003	Accelerated weathering (Xenon arc)
	22pp	S\$21.00
	Part G5 : 1992	Resistance to bleeding (Confirmed 2003)
	6pp	S\$11.00
	Part G6 : 2003	Resistance to humidity under condensation conditions
	15pp	S\$15.00
	Part H1 : 1985	Evaluating degree of settling of paint (Confirmed 2003)
	7pp	S\$11.00
	Part H2 : 1988	Designation of degree of blistering (Confirmed 2003)
	10pp	S\$15.00
	Part H3 : 1988	Designation of degree of rusting (Confirmed 2003)
	11pp	S\$15.00
	Part H4 : 1988	Designation of degree of cracking (Confirmed 2003)
	8pp	S\$11.00
	Part H5 : 1988	Designation of degree of flaking (Confirmed 2003)
	8pp	S\$11.00
	Part H6 : 2003	Evaluating degree of bleeding o road marking paint
	10pp	S\$15.00
	Part H7 : 2003	Rating of degree of chalking by tap method
	14pp	S\$15.00
SS 6 : 1970	Red lead based primers for iron and steel surfaces (Withdrawn, November 2003. Replaced by SS 494 : 2001)	
SS 7 : 1998	Paint - Finishing, gloss enamel	
	13pp	S\$15.00
	Applies to an air-drying gloss paint for use on primed interior and exterior wood and metal surfaces.	
SS 8 : 2001	Hydrochloric acid, technical	
	14pp	S\$15.00
	Covers one grade of technical hydrochloric acid.	
SS 9 : 1992	Protective helmets for motor cyclists	
	Amendment No. 1, May 1994	
	Amendment No. 2, January 2004	
	38pp	S\$34.00
	Covers requirements for helmets to be worn by riders and passengers of motor cycles and motor cycles with side cars excluding participants in competitive events. Does not specify requirements for accessories such as visors, goggles, detachable peaks and detachable face covers. Includes tests for chin guard, oblique impact, etc. and provides for the use of alternative headforms.	

SS 10 : 1970**Full-cream sweetened condensed milk**

Amendment No. 1, November 1981

Amendment No. 2, December 1986

Amendment No. 3, March 1990

17pp S\$21.00

Gives specific requirements on raw materials used and composition of condensed milk, sampling and testing. (Confirmed 1986)) (Archived, October 2003)

SS 11 : -**Methods of sampling and tests for fats and oils****Part 0 : 1994 General introduction**

7pp S\$11.00

Part 1 : 1994 *Sampling

(ISO 5555 : 1991)

22pp GrY

Part 2 : 1994 *Preparation of test sample

(ISO 661 : 1989)

2pp GrY

Part 3 : 1994 *Determination of colour

(BS 684 : Section 1.14 : 1987)

4pp GrY

Part 4 : 1994 *Determination of refractive index

(ISO 6320 : 1985)

2pp GrY

Part 5 : 1994 *Determination of litre weight in air

(BS 684 : Section 1.1 : 1985)

4pp GrY

Part 6 : 1994 *Determination of moisture and other volatile matter

(BS 684 : Section 1.10 : 1982 (1988))

4pp GrY

Part 7 : 1994 *Determination of insoluble impurities

(ISO 663 : 1992)

3pp GrY

Part 8 : 1994 *Determination of alkalinity

(BS 684 : Section 2.5 : 1989)

4pp GrY

Part 9 : 1994 *Determination of acid value and of acidity

(ISO 660 : 1983)

4pp GrY

Part 10 : 1994 *Determination of iodine value

(ISO 3961 : 1989)

2pp GrY

Part 11 : 1994 *Determination of saponification value

(ISO 3657 : 1988)

2pp GrY

Part 12 : 1994 *Determination of unsaponifiable matter

(ISO 3596-1 : 1988)

5pp GrY

Part 13 : 1994 *Determination of volatile acids (Reichert and Polenske values)

(BS 684 : Section 2.11 : 1976)

4pp GrY

Part 14 : 1986	Determination of Arachidic acid (Evers' test) (Confirmed 1994)
5pp	S\$11.00
Part 15 : 1994	*Determination of peroxide value
(ISO 3960 : 1977)	
3pp	GrY
Part 16 : 1994	*Determination of melting point in open capillary tubes (slip point)
(ISO 6321 : 1991)	
5pp	GrY
Part 17 : 1994	*Cold test
(AOCS Official Method Cc 11-53 (1989))	
1pp	GrY
Part 18 : 1994	*Preparation of methyl esters of fatty acids
(BS 684 : Section 2.34 : 1980)	
4pp	GrY
Part 19 : 1994	*Analysis by gas chromatography of methyl esters of fatty acids
(ISO 5508 : 1990)	
7pp	GrY
Part 20 : 1994	*Cloud point test
(AOCS Official Method Cc 6-25 (1989))	
1pp	GrY
Part 21 : 1994	Determination of arsenic by atomic absorption spectrophotometry
4pp	S\$11.00
Part 22 : 1994	*Determination of lead by direct graphite furnace atomic absorption spectrometry
(AOCS Official Method Ca 18c-91 (1992))	
3pp	GrY
Part 23 : 1994	*Determination of copper by direct graphite furnace atomic absorption spectrometry
(AOCS Official Method Ca 18b-91 (1992))	
3pp	GrY
SS 12 : 1995	Groundnut (peanut) oil
10pp	S\$15.00
	Applies to groundnut oil for edible and industrial purpose.
SS 13 : 1995	Coconut oil
10pp	S\$15.00
	Applies to coconut oil for edible and industrial purposes of the following categories : - Crude coconut oil - Fragrant coconut oil - Refined and deodorized coconut oil
SS 14 : 1982	*Tungsten filament lamps for general service (IEC 60064 : 1973) (Withdrawn, January 1993)
SS 15 : 1970	Alternating current electric ceiling fans and regulators (Withdrawn, January 1993)
SS 16 : 1985	WC seats (plastics) (obsolete) (Withdrawn, September 2004)

SS 17 : 1996	Steel tubes suitable for screwing to BS 21 pipe threads 41pp S\$40.00 Applies to welded and seamless, screwed and socketed steel tubes and to plain end steel tubes suitable for screwing to BS 21 pipe threads of nominal size DN 8 to DN 150 mm in three series of thicknesses, designated 'Light', 'Medium' and 'Heavy'. (Archived, July 2004)
SS 18 : -	Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric Part 1 : 1999 Steel grade 500 22pp S\$21.00 Specifies requirements for plain or ribbed steel wire for the reinforcement of concrete or for use in the manufacture of welded fabric in accordance with SS 32. One steel grade 500 N/mm ² . Is defined. Part 2 : 1970 Steel grade 485 Amendment No. 1, September 1975 Amendment No. 2, February 1978 Erratum No. 1, June 2000 Amendment No. 3, August 2000 13pp S\$15.00 Preferred sizes, manufacture, tolerances on dimensions and mass, chemical composition and mechanical properties. Methods of test cover test pieces, tensile test and reverse bend test. (Confirmed 1981)
SS 19 : 1970	Lead-acid starter batteries (Withdrawn, May 2001)
SS 20 : 1970	Containers and cell covers for lead-acid batteries (Withdrawn, May 2001)
SS 21 : 1970	Separators for lead-acid batteries (Withdrawn, May 2001)
SS 22 : 1979	Pressed steel sectional rectangular tanks Amendment No. 1, September 1980 Amendment No. 2, November 1998 19pp S\$21.00 Specifies requirements for pressed steel sectional rectangular tanks, working under a pressure not greater than the static head corresponding to the depth of the tank; built up of pressed steel plates 1220 mm square used to contain cold water, potable liquids, certain oils and chemicals. (Obsolescent) (Archived, July 2004)
SS 23 : 1995	*Ceiling roses (BS 67 : 1987) (Withdrawn, October 2004. Refer directly to BS 67)
SS 24 : 1987	Ballasts for fluorescent lamps on a.c. 50 Hz supplies (Withdrawn, replaced by SS 490 and SS 491)
SS 25 : 1970	Matches (Withdrawn)
SS 26 : 2000	Ordinary Portland cement 27pp S\$27.00 Specifies the requirements for the composition and the manufacture of ordinary Portland cement and for the strength, physical and chemical properties of ordinary Portland cement as 'characteristic' values. Also specifies requirements for marking, provision of information, sampling and testing for acceptance at delivery and for special Portland cement. Gives the procedures for the manufacturer's autocontrol system to ensure conformity and for the purchaser's assessment of compliance at delivery.

SS 27 : 1970	Trimmed sizes of writing paper and certain classes of printed matter (Withdrawn)
SS 28 : 1970	Sizes of correspondence envelopes and pockets (Withdrawn)
SS 29 : 1970	Method for expression of dimensions of processed writing paper and certain classes of printed matter (Withdrawn)
SS 30 : 1999	<p>Manhole tops and surface-box tops Amendment No. 1, September 2006 20pp S\$21.00</p> <p>Specifies requirements for manhole tops and surface-box tops with a clear opening up to and including 1000 mm, for installation within areas subjected to pedestrian and/or vehicular traffic.</p>
SS 31 : 1998	<p>Aggregates from natural sources for concrete Erratum No. 1, October 1998 20pp S\$21.00</p> <p>Specifies the quality and grading requirements for aggregates obtained by processing natural materials for use in concrete. (Confirmed for withdrawal by Jan 2011. Refer to SS EN 12620 : 2008.)</p>
SS 32 : -	<p>Welded steel fabric for the reinforcement of concrete</p> <p>Part 1 : 1999 Steel grades 300 and 500 Erratum No. 1, January 2000 Erratum No. 2, August 2000 24pp S\$21.00</p> <p>Specifies requirements for factory made sheets or rolls of welded fabric manufactured from steel wires or bars with diameters from 4 mm to 16 mm and designed for the reinforcement of concrete structures and the ordinary reinforcement of prestressed concrete structures.</p> <p>Part 2 : 1986 Steel grade 485 Erratum No. 1, June 2000 Amendment No. 1, August 2000 13pp S\$15.00</p> <p>Applies to steel fabric formed by the welding of plain round or high bond wires for the reinforcement of concrete. Specifies requirements for square and rectangular mesh fabric, together with preferred size for each type.</p>
SS 33 : 1975	<p>Cast iron spigot and socket soil, waste and ventilating pipes (sand cast and spun) and fitting 37pp S\$34.00</p> <p>Deals with one grade of pipe with alternative spigots and sockets and a range of cast iron fittings for use above ground. Quality of materials, finish and testing. Tables of dimensions to cover pipes, bends, offsets, branches, traps, access doors, roof outlets, inspection pieces, sockets, shoes, holderbats, wire balloons and sanitary connections. (Archived, July 2004)</p>
SS 34 : 1998	<p>Undercoat paint for gloss enamel Amendment No. 1, March 2001 13pp S\$15.00</p> <p>Applies to a ready-for-use air-drying undercoat paint for use on primed interior and exterior wood and metal surfaces.</p>

SS 35 : 1971	Toilet soap Amendment No. 1, July 1983 Amendment No. 2, August 1994 21pp S\$21.00 Specifies requirements for chemical characteristics, texture and stability. Sampling. Describes methods for the determination of total fatty matter, total alkali, free caustic alkali, rosin, chlorides, matter insoluble in alcohol, unsaponified and unsaponifiable matter texture and stability. (Confirmed 1994)) (Archived, December 2003)
SS 36 : 1971	Aluminium sulphate Amendment No. 1, May 1978 17pp S\$21.00 Specifies requirements for chemical characteristics. Sampling. Describes methods for determination of water insoluble matter, water soluble aluminium compound, iron, combined sulphuric anhydride, free acid, heavy metal and arsenic content. (Confirmed 1981) (Archived, January 2004)
SS 37 : 1998	Aluminium paint 12pp S\$15.00 Applies to a ready-for-use air-drying aluminium finishing paint suitable for both interior and exterior use.
SS 38 : 1998	Aluminium wood primer 11pp S\$15.00 Applies to a ready-for-use paint suitable as the primer on wood surfaces with good sealing properties.
SS 39 : 1971	Sodium hydroxide (caustic soda), technical 20pp S\$21.00 Specifies requirements for chemical characteristics including density, sodium hydroxide content, carbonate, chloride, sulphate, iron, copper, manganese and silica. Sampling and test methods. (Confirmed 1981) (Archived, January 2004)
SS 40 : 1988	Metal sinks for domestic purposes 21pp S\$21.00 Deals with a range of metal sinks with or without draining boards, suitable for domestic use and for general application. Covers the requirements regarding material, construction and finish. (Archived, July 2004)
SS 41 : 1971	Toilet rolls (Withdrawn)
SS 42 : 1971	Quality of vitreous china sanitary appliances (obsolete) (Withdrawn, September 2004)
SS 43 : 1971	Domestic refuse-bins made from galvanized or ungalvanized mild steel (Withdrawn, November 1996)
SS 44 : 1980	Steel filing cabinets (Withdrawn)
SS 45 : 1971	PVC garden hose (Withdrawn)

SS 46 : 1971	Wheat flour Amendment No. 1, March 1985 Amendment No. 2, August 1991 17pp S\$21.00 Specifies requirements for composition and quality characteristics, colour, granularity, baking performance and fortification. Methods of sampling and test for crude protein, moisture, ash and diastatic activity. (Confirmed 1991) (Archived, May 2005)
SS 47 : 1997	Margarine 38pp S\$34.00 Applies to margarine for edible purposes. Margarine shall be of the following three categories: margarine, vitamin-enriched margarine and polyunsaturated margarine.
SS 48 : 1971	*Covered electrodes for the manual metal-arc welding of mild steel and medium tensile steel (BS 639: 1972) (Withdrawn, replaced by SS 204)
SS 49 : 1971	*Classification and coding of covered electrodes for metal-arc welding (BS 1719: Part 1: 1969) (Withdrawn, replaced by SS 204)
SS 50 : 1981	PVC insulated cables (non-armoured) for electric power and lighting (Withdrawn, replaced by SS 358)
SS 51 : 1971	Code of practice for installation, operation and maintenance of electric passengers and goods lifts (Withdrawn, replaced by CP 2)
SS 52 : 1977	Rules for the use of units of the International System (SI) (Withdrawn, replaced by SS ISO 1000 : 1992)
SS 53 : 1971	Guide for inter-conversion of values from one system of units to another (Withdrawn)
SS 54 : 1971	*Method of precise conversion of inch and metric dimensions to ensure inter-changeability (Withdrawn)
SS 55 : 1971	Conversion factors and tables (Withdrawn, replaced by SS 478)
SS 56 : 1971	The use of the metric system in the building industry 17pp S\$21.00 Gives detailed information and guidance on the application of the metric system to various construction industry activities. Information relates to units of measure, metric notation, use of unit symbols, choice of multiples and submultiples of SI units, linear measurements on drawings and preferred scales. Tables of units for use in specific sectors of the industry are included as an appendix, together with conversion factors. (Confirmed 1981) (Archived, May 2001)
SS 57 : 1989	Glazed ceramic tiles and tile fittings for internal walls (Withdrawn, replaced by SS 483)
SS 58 : 1972	Asbestos cement flat and corrugated sheets (Withdrawn)
SS 59 : 1972	Alternating current electric table type and pedestal type fans (Withdrawn, January 1993)
SS 60 : 1972	*Enamelled copper conductors (BS 3188 : Part 1 : 1960) (Withdrawn)

SS 60M : 1972	*Enamelled copper conductors (BS 4520 : Part 1 : 1969) (Withdrawn, January 1993)
SS 61 : 1972	Monosodium glutamate for seasoning 12pp S\$15.00 Covers the requirements and the methods of sampling for monosodium L-glutamate used as seasoning material in food. Tests are given on determinations of moisture, nitrogen, sodium chloride and specific rotation. (Confirmed 1983) (Archived, October 2003)
SS 62 : 1997	Carbonated and non-carbonated beverages 29pp S\$27.00 Prescribes the requirements and the methods of test of non-alcoholic carbonated and non-carbonated beverages which are intended for consumption without dilution. Does not cover diabetic and dietetic drinks, natural mineral waters, milk and milk products and soya bean drink.
SS 63 : 1972	Boots combat, direct vulcanized process (Withdrawn)
SS 64 : 1972	Nylon boot and shoe laces, coreless (Withdrawn)
SS 65 : 1972	Methods of test for coated fabrics (Withdrawn)
SS 66 : 1972	*Glossary of footwear terms (Withdrawn)
SS 67 : 1972	Polyvinylchloride coated fabrics (Withdrawn)
SS 68 : 1984	WC flushing cisterns, including dual flush cisterns and flush pipes (Withdrawn)
SS 69 : 1981	Floats (plastic) for float operated valves for cold water cisterns Amendment No. 1, August 1996 Amendment No. 2, May 2003 12pp S\$15.00 Specifies requirements for floats for use in cold water feed cisterns, comprising plastics spherical floats of 102 mm, 114 mm, 127 mm and 152 mm diameter, and non-spherical floats of equivalent lifting efforts. (Confirmed 1996)
SS 70 : 2001	Clay roofing tiles and fittings 26pp S\$27.00 Stipulates the technical requirements and quality of the individual tiles as an essential component of roofing system. Seeks to ensure that the physical and functional properties of the tiles(s) are satisfactory, leaving the design, size and colour, surface texture and aesthetic considerations to the designer and purchaser.
SS 71 : 1972	Nomenclature of commercial timbers 16pp S\$15.00 Gives botanical species standard names, alternative commercial names and other names for hardwoods and softwoods. (Archived, April 2001)

- SS 72 : 1988** **Treatment of timber and plywood with copper/chrome/arsenic wood preservatives**
 Erratum No. 1, May 1989
 49pp S\$47.00
- Specifies requirements for the treatment of timber plywood or veneer with water-borne wood preservatives which consists essentially of mixtures of copper, chromium and arsenic. Includes list of the most used C-C-A formulations. (Archived, August 2007)
- SS 73 : -** **Methods of sampling and testing of mineral aggregates, sand and fillers**
- (Confirmed for withdrawal by Jan 2011. Refer to the EN test methods in SS EN 12620 : 2008)
- Part 0 : 1992** **General requirements for apparatus and calibration**
 19pp S\$21.00
- Part 1 : 1992** **Guide to sampling and testing aggregates**
 13pp S\$15.00
- Part 3.2 : 1992** **Sedimentation test**
 15pp S\$15.00
- Part 5.1 : 1992** **Method for determination of particle shape - Flakiness index**
 11pp S\$15.00
- Part 6 : 1992** **Methods for determination of shell content**
 7pp S\$11.00
- Part 17 : 1992** **Methods for determination of water-soluble chloride salts**
 (Archived, May 2008)
 18pp S\$21.00
- Part 18 : 1992** **Methods for determination of sulphate content**
 22pp S\$21.00
- Part 19 : 1992** **Methods for determination of acid-soluble material in fine aggregate**
 10pp S\$15.00
- Part 20 : 1992** **Methods for testing and classifying drying shrinkage of aggregates in concrete**
 12pp S\$15.00
- Part 21 : 1992** **Method for determination of soundness**
 15pp S\$15.00
- SS 74 : 1994** **Test sieves**
 (Withdrawn, April 2003. Refer directly to ISO 3310 comprising 3 parts)
- SS 75: -** **Draw-off taps and stopvalves for water services (screw-down pattern)**
- Part 1 : 1972 *Imperial units
 (BS 1010 : Part 1 : 1959)
 (Withdrawn, obsolete)
- Part 2 : 1978** ***Draw-off taps and above-ground stopvalves**
 (BS 1010 : Part 2 : 1973)
 Amendment No. 1, February 1996
 56pp GrY
- Specifies requirements for material, workmanship. design and construction of screwdowndown pattern draw-off taps and stopvalves of $\frac{1}{4}$ in to 2 in nominal sizes. (Archived, July 2004)
- SS 76 : 1972** **Precast concrete blocks**
 (Withdrawn, obsolete)

SS 76M : 1975**Precast concrete blocks**

Addendum No. 1, April 1980

Erratum No. 1, April 1980

17pp S\$21.00

Specifies precast solid, hollow or cellular blocks (including aerated concrete blocks) according to their properties and gives the uses for which they are intended. (Confirmed 1990) (The requirements for Class 'B' type of blocks and bricks are replaced by SS 271: 1983) (Archived, December 2003)

SS 77 : 1972

Asbestos cement pressure pipes

(Withdrawn)

SS 78 : -**Testing concrete****Part 5 : 1972*****Methods of testing hardened concrete for other than strength**

(BS 1881 : Part 5 : 1970)

Amendment No. 1, December 1972

40pp GrY

Part A1 : 1987**Method of sampling fresh concrete on site**

10pp S\$15.00

Part A2 : 1987**Method for determination of slump**

7pp S\$11.00

Part A3 : 1987**Method for determination of compacting factor**

9pp S\$15.00

Part A4 : 1987**Method for determination of Vebe time**

9pp S\$15.00

Part A5 : 1987**Method for determination of flow**

9pp S\$15.00

Part A6 : 1987**Method for determination of air content of fresh concrete**

16pp S\$15.00

Part A7 : 1987**Method for determination of density of compacted fresh concrete**

8pp S\$11.00

Part A8 : 1987**Method for making test cubes from fresh concrete**

7pp S\$11.00

Part A9 : 1987**Method for making test beams from fresh concrete**

8pp S\$11.00

Part A10 : 1987**Method for making test cylinders from fresh concrete**

10pp S\$15.00

Part A11 : 1987**Method of normal curing of test specimens (27°C method)**

7pp S\$11.00

Part A12 : 1987**Methods for accelerated curing of test cubes**

8pp S\$11.00

Part A13 : 1987**Method for making and curing no fines test cubes**

9pp S\$15.00

Part A14 : 1987**Methods for determination of density of hardened concrete**

10pp S\$15.00

Part A15 : 1987**Specification for compression testing machines for concrete**

12pp S\$15.00

Part A16 : 1987	Method for determination of compressive strength of concrete cubes
8pp S\$11.00	
Part A17 : 1987	Method for determination of tensile splitting strength
10pp S\$15.00	
Part A18 : 1987	Method for determination of flexural strength
9pp S\$15.00	
Part A19 : 1987	Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)
7pp S\$11.00	
Part A20 : 1987	Method for determination of the compressive strength of concrete cores
12pp S\$15.00	
Part A21 : 1987	Method for determination of static modules of elasticity in compression
9pp S\$15.00	
Part A22 : 1987	Method for determination of water absorption
7pp S\$11.00	
Part A24 : 1991	Methods of analysis of hardened concrete
41pp S\$40.00	
Part A25 : 1987	Methods for mixing and sampling fresh concrete in the laboratory
8pp S\$11.00	
Part A27 : 1992	Method of verifying the performance of a concrete cube compression machine using the comparative cube test
16pp S\$15.00	
Part A29 : 1994	Method for determination of density of partially compacted semi-dry fresh concrete
10pp S\$15.00	
Part B1 : 1992	Guide to the use of non-destructive methods of test for hardened concrete
36pp S\$34.00	
Part B2 : 1992	Recommendations for surface hardness testing by rebound hammer
10pp S\$15.00	
Part B3 : 1992	Recommendations for measurement of velocity of ultrasonic pulses in concrete
31pp S\$27.00	
Part B4 : 1992	Recommendations for the use of electromagnetic covermeters
15pp S\$15.00	
Part B5 : 1992	Recommendations for radiography of concrete
18pp S\$21.00	
Part B6 : 1992	Recommendations for determination of strain in concrete
11pp S\$15.00	
Part B7 : 1992	Recommendations for assessment of concrete strength by the near-to-surface tests
18pp S\$21.00	

	Part B9 : 1992	Recommendations for the measurement of dynamic modulus of elasticity
	9pp	S\$15.00
SS 79 : 1980	*PVC insulation and sheath of electric cables (BS 6746 : 1976) (Withdrawn)	
SS 80 : 1972	*Copper conductors in insulated cables and cords (BS 6360: 1969) (Withdrawn, replaced by SS 291)	
SS 81 : -	Part 1 : 1990 See SS IEC 60384-4 : 1985 Part 2 : 1990 See SS IEC 60384-4-1 : 1985 Part 3 : 1990 See SS IEC 60384-4-2 : 1985	
SS 82 : 1972	Bitumen based primers for cold or hot application	
	11pp	S\$15.00
	Applies to bitumen based primers, without fillers, for cold or hot application, which will provide an effective bond between the metal and subsequent bitumen coatings. Classification and definitions. Specifies requirements for composition, chemical and physical characteristics. Methods of sampling and tests. (Confirmed 1996) (Archived, July 2003)	
SS 83 : 1972	Hot applied bitumen based coatings for protection against corrosion	
	15pp	S\$15.00
	Applies to bitumen based materials, both unfilled and reinforced with mineral or fibrous, inert fillers, for hot application, which will provide effective protective coating for iron and steel surfaces against corrosion. Definitions, requirements for materials, chemical and physical characteristics and performance. Sampling and tests. (Confirmed 1996) (Archived, July 2003)	
SS 84 : 1972	Bitumen for road construction	
	Amendment No. 1, March 1989	
	12pp	S\$15.00
	Requirements for petroleum bitumen and cut-back bitumen, suitable for use on roads, and classification into grades with appropriate designation and schedule of properties. (Confirmed 1996) (Archived, November 2003)	
SS 85 : 1990	Bitumen emulsion for road construction	
	34pp	S\$34.00
	Specifies requirements for bitumen emulsion of both anionic and cationic type for use in road construction. (Confirmed 1996) (Archived, November 2003)	
SS 86 : 1988	Methods of sampling and testing bitumens	
	Amendment No. 1, November 1996	
	95pp	S\$87.00
	Includes 15 methods of tests of bitumens as well as methods of sampling. Appendices cover specifications of IP and ASTM thermometers. (Confirmed 1996) (Archived, November 2003)	
SS 87 : 1974	Cement paint (Withdrawn, November 1995)	
SS 88 : 1978	*Mineral solvents (white spirit and related hydrocarbon solvents) for paints and other purposes	
	(BS 245 : 1976)	
	Amendment No. 1, April 1978	
	4pp	GrY
	Covers mineral solvents having an aromatic content below 25% (v/v) and of 25% to 50% (v/v) for use in paints and varnishes and for other purposes. (Confirmed 2003)	
SS 89 : 1981	See SS ISO 3262 : 1975	

SS 90 : 1995	<p>*Glossary of paint and related terms (BS 2015 : 1992) (Withdrawn, April 2004. Refer directly to ISO 4618 : 1998)</p>
SS 91 : 1995	<p>*Solvent-based paint remover (BS 3761 : 1986) 12pp GrY</p> <p>Specifies requirements for solvent-based removers for use on surfaces of painted, varnished or lacquered wood, plaster or metal. (Archived, October 2003)</p>
SS 92 : 1981	<p>See SS ISO 1248:1974</p>
SS 93 : 1972	<p>*Aluminium conductors in insulated cables (BS 6791 : 1969) (Withdrawn)</p>
SS 94 : 1972	<p>White refined sugar Amendment No. 1, December 1992 Erratum No. 1, July 1994 21pp S\$21.00</p> <p>Specifies requirements for composition and quality characteristics. Methods of sampling. Tests for determination of moisture, polarization, reducing sugar, ash, colour, arsenic, lead and copper are appended. (Confirmed 1992) (Archived, October 2003)</p>
SS 95 : 1997	<p>Butter 26pp S\$27.00</p> <p>Applies to butter for edible purposes. Butter shall be categorised as follows: salted butter, unsaturated butter and cultured butter (lactic butter).</p>
SS 96 : 1974	<p>Automotive leaf springs (Withdrawn, November 1996)</p>
SS 97 : -	<p>Residual current operated circuit-breaker without integral overcurrent protection for household and similar uses (RCCBs)</p> <p>Part 1 : 2005 General rules (IEC 61008-1 : 2002) 136pp S\$113.00</p> <p>Applies to residual current operated circuit-breakers functionally independent of, or functionally dependent on, line voltage, for household and similar uses. Does not incorporate overcurrent protection for rated voltages not exceeding 440 V a.c. and rated current not exceeding 125 A, intended principally for protection against shock-hazard. RCCBs are listed as controlled goods in the Consumer Protection (Safety Requirements) Regulations 2002.</p>
SS 98 : 2005	<p>Industrial safety helmets 33pp S\$34.00</p> <p>Specifies physical and performance requirements, methods of test and marking requirements for industrial safety helmets which are intended primarily to provide protection to the wearer against falling objects and consequential brain injury and skull fracture.</p>

SS 99 : 1998	Welded low carbon steel cylinders for storage and transportation of compressed liquefied gases (ISO 4706 : 1989) Erratum No. 1, May 2001 33pp S\$34.00
	Gives the minimum requirements for certain aspects of material, design, construction and workmanship, procedure and test at manufacture of refillable welded steel gas cylinders of a test pressure not greater than 75 bar, and of water capacities from 1 litre up to and including 150 litres for compressed gases, exposed to ambient temperatures. (Archived, July 2004)
SS 100 : 1974	Rigid steel conduits for electrical installations (Withdrawn, May 2003. Replaced by SS 504 : Part 21 : 2003)
SS 101 : 1999	Protection of persons and equipment by enclosures - Probes for verification (IEC 61032 : 1997) Erratum No. 1, February 2003 28pp S\$27.00
	Specifies details and dimensions of test probes intended to verify the protection provided by enclosures with regard to protection of persons against access to hazardous parts inside the enclosure and protection of the equipment inside the enclosure against ingress of solid foreign objects.
SS 102 : 1996	Valves and safety valves for land boilers, steam vessels and piping installations 27pp S\$27.00
	Specifies the design, construction and testing of safety valves as well as other valves that are intended for use on land boilers, steam vessels and piping installations. Deals with safety valves, stop valves, feed valves, boiler blowdown valves/cocks for application to boilers, main and auxiliary steam pipes, feed and boiler blowdown piping in connection therewith. Does not cover the selection, operation or application of valves. (Archived, July 2004)
SS 103 : 1974	Burnt clay and shale bricks (Withdrawn, May 2007)
SS 104 : 1996	Cold-formed steel sections for general structures 24pp S\$21.00
	Specifies cold-formed steel sections of thickness 6 mm or less for use in buildings or other structures.
SS 105 : 1997	Safety footwear (Withdrawn, July 2005. Replaced by SS 513)
SS 106 : 1974	Stencil paper (Withdrawn)
SS 107 : 1974	Duplicating ink for twin cylinder rotary machines (Withdrawn)
SS 108 : 1974	Polyvinyl chloride resins Erratum No. 1, February 1977 24pp S\$21.00
	Covers definitions, classification and requirements for polyvinyl chloride resins produced by suspension polymerization. Tests for determination of specific viscosity, apparent density, particle size, sulphated ash, volatile matter, impurities and foreign matter, pH of aqueous extract, and 'K value' of PVC resin are appended.

SS 109 : 1974	Bitumen-based filling compounds for electrical purposes Erratum No. 1, March 1976 29pp S\$27.00 Specifies compounds based on bitumen suitable for use as filling compounds which may be subjected to electrical stress in service but is not applicable to oils, oil resisting compounds or cold pouring compounds. The compounds are classified according to the softening points; electrical and physical properties are specified and the necessary tests are given. (Confirmed 1998) (Archived, July 2003)
SS 110 : 1974	Ethanol 14pp S\$15.00 For industrial purposes. Colour, relative density, residue on evaporation, miscibility with water, alkalinity or acidity, aldehydes and ketones. Test methods are appended. (Confirmed 1981)
SS 111 : 1974	Sodium silicates 18pp S\$21.00 Requirements for the alkali content, silica content, matter insoluble in water and iron content of sodium metasilicate pentahydrate of technical quality for industrial use. Method of classification for sodium silicate solutions based on silica: alkali ratio and relative density, with optional additional requirements for viscosity. Appendices give methods of test for ensuring conformity with the requirements. (Confirmed 1981) (Archived, January 2004)
SS 112	<i>Unassigned number</i>
SS 113 : 1995	Glucose syrup 24pp S\$21.00 Covers requirements and methods of test for glucose syrup for utilization in food and pharmaceutical products.
SS 114 : 1974	Evaporated milk Amendment No. 1, September 1976 Amendment No. 2, November 1981 Amendment No. 3, February 1994 16pp S\$15.00 Specifies requirements for raw materials, manufacture, composition and quality characteristics. Methods of sampling and test are appended. (Confirmed 1994) (Archived, October 2003)
SS 115 : 1995	Cordials 19pp S\$21.00 Specifies requirements and the methods of test for cordials requiring dilution before consumption.
SS 116 : 1975	PVC (Vinyl) asbestos floor tiles (Withdrawn)
SS 117 : 1975	Hot dip galvanized coatings on iron and steel articles (Withdrawn, October 2007. Refer directly to the relevant ISO standards)
SS 118 : 1980	Steel windows and doors for domestic and similar buildings 37pp S\$34.00 Specifies materials, construction, finish and hardware for steel windows and doors manufactured to standard size and designs from rolled steel sections. (Archived, June 2003)
SS 119 : 1975	Ready-mixed concrete (Withdrawn, replaced by SS 289)
SS 120 : 1975	Electric overhead travelling cranes (Withdrawn, replaced by SS 497)

SS 121 : 1975	Lampholders and startholders for tubular fluorescent lamps (Withdrawn)
SS 122 : 1979	Tubular fluorescent lamps for general lighting service (Withdrawn)
SS 123 : 1977	Capacitors for use in tubular fluorescent, high pressure mercury and low pressure sodium vapour lamp circuits (Withdrawn)
SS 124 : 1975	Glow starters for tubular fluorescent lamps operating on a.c. 50 Hertz supplies (Withdrawn)
SS 125 : 2001	Bayonet lampholders (IEC 61184 : 1997-08) (Withdrawn, December 2005. Refer directly to IEC 61184)
SS 126 : 1975	Screw lamp-caps and lampholders (Edison type) for voltages not exceeding 250 volts (Withdrawn, replaced by SS 471)
SS 127 : 1975	Mains pressure automatic electric storage water heaters (Withdrawn, replaced by SS 146 : Part 2 : 8)
SS 128 : 1975	*Liquid carbon dioxide, industrial (BS 4105 : 1967) Amendment No. 1, July 1975 24pp GrY Two types, one suitable for general use, including welding, and the other for food industry use; requirements for residual gases, water, oil (Type 2 only) and sulphur compounds (Type 2 only); methods of sampling and analysis in appendices. (Confirmed 1981)
SS 129 : 1975	*Industrial nitrogen (BS 4366 : 1968) 40pp GrY Type 1 for industrial use and Type 2 having reduced oxygen content for special industrial uses. Oxygen, carbon dioxide and other carbon compounds, the hydrogen contents; water content (Type 2 only). Two methods of treatment of liquid samples and methods of analysis given in appendices. (Confirmed 1981)
SS 130 : 2001	Sulphuric acid 12pp S\$15.00 Prescribes the requirements and the methods of sampling and test for sulphuric acid.
SS 131 : 1975	Liquid chlorine 16pp S\$15.00 Gives limits and methods of test for chlorine content, water content and residue on evaporation. (Confirmed 1981) (Archived, January 2004)
SS 132 : 1975	Oleum 17pp S\$21.00 Covers limits and methods of test for free sulphur trioxide residue on ignition and iron content. (Confirmed 1981)
SS 133 : 1987	Bituminous emulsion for roof waterproofing Amendment No. 1, August 1989 22pp S\$21.00 Covers bituminous emulsions capable of being sprayed on or brush-applied in relatively thick films as part of waterproofing system for roof surface having inclines of not less than 1 in 70. (Confirmed 1998) (Archived, November 2003)

SS 134 : 1995	Refined, deodorized and winterized corn (or maize) oil 9pp S\$15.00 Applies to refined, deodorized and winterized corn oil for edible purposes.
SS 135 : 1995	Refined and deodorized soya bean oil 9pp S\$15.00 Applies to refined and deodorized soya bean oil for edible purposes.
SS 136 : 1975	Standard atmospheres for conditioning and testing of textile materials (Withdrawn)
SS 137 : 1975	Determination of linear density of yarns by the skein method (Withdrawn)
SS 138 : 1975	Determination of breaking load and elongation at the breaking load of single strands of yarn (Withdrawn)
SS 139 : 1975	Determination of twist in yarns by direct-counting method (Withdrawn)
SS 140 : 1975	Determination of lea strength and lea count of spun yarns (Withdrawn)
SS 141 : 1976	Unplasticized PVC pipe for cold water services and industrial uses Amendment No. 1, February 1996 24pp S\$21.00 Requirements for material, classification and dimensions of pipes up to and including 575 mm nominal size, physical, chemical and mechanical characteristics, sampling and marking. Test methods.(Confirmed 1996)
SS 142 : 1976	Steel pipes, fittings and specials for water, gas and sewage <i>Amendment No. 1, September 1977</i> <i>Erratum No. 1, July 1979</i> 26pp S\$27.00 Applies to seamless and welded carbon steel pipes, fittings and specials and to joints in respect of the pipe end preparation in sizes 60.3 mm ($2\frac{3}{8}$ in) to 2134 mm (84 in) outside diameter for the conveyance of water, gas and sewage. Includes mill applied coatings and external and internal protections against the corrosive action of the surrounding media or conveyed fluid.
SS 143 : 2000	Audio, video and similar electronic apparatus - Safety requirements (IEC 60065 : 1998-07) (Withdrawn, September 2004. Refer directly to IEC 60065-2001)
SS 144 : -	Switches for appliances Part 1 : 1997 General requirements (IEC 61058-1 : 1996) (Withdrawn, October 2004. Refer directly to IEC 61058-1)
SS 145 : -	13A plugs and socket outlets Part 1 : 1997 Rewirable and non-rewirable 13A fused plugs 63pp S\$54.00 Specifies the conditions of use, type testing, construction and tests for 13A fused plugs having insulating sleeves on line and neutral pins, for household, commercial and light industrial purposes with particular reference to safety in normal use.

Part 2 : 1997 13A switched and unswitched socket-outlets

Amendment No. 1, April 1999

Erratum No. 1, October 2001

65pp S\$60.00

Specifies the conditions of use, type testing, construction and tests for 13A switched and unswitched socket-outlets for household, commercial and light industrial purposes, with particular reference to safety in normal use.

SS 146 : -

Safety of household and similar electrical appliances - Safety

Part 1 : 2004 General requirements

(IEC 60335-1 : 2001)

Amendment No. 1, February 2006

134pp S\$113.00

Deals with the safety of electrical appliances for household and similar purposes, their rated voltage being not more than 250 V for single-phase appliances and 480 V for other appliances.

Appliances not intended for normal household use but which nevertheless may be a source of danger to the public, such as appliances intended to be used by laymen in shops, in light industry and on farms, are within the scope of this standard.

Part 1 : 2008 General requirements

(IEC 60335-1 : 2001 – consolidated edition incorporating IEC Amendments and Corrigenda)

154pp S\$133.00

Deals with the safety of electrical appliances for household purposes with a rated voltage not exceeding 250 V for single-phase appliances and 480 V for other appliances. Covers appliances which may be a source of danger to the public, such as appliances used by laymen in shops, light industry and on farms. Includes remote operation, thermal links and relays and test for appliances having a switch with an off position obtained by electronic disconnection, or a switch that can place the appliance in a stand-by mode.

Part 2 : 1 : 1996 Particular requirements for electric irons

(IEC 60335-2-3 : 1993)

(Withdrawn, October 2005)

Part 2 : 2 : 1997 Particular requirements for appliances for heating liquid

(IEC 60335-2-15 : 1995)

(Withdrawn, October 2005)

Part 2 : 3 : 1995 Particular requirements for washing machines

(IEC 60335-2-7 : 1993)

(Withdrawn, October 2005)

Part 2 : 4 : 1996 Particular requirements for vacuum cleaners and water suction cleaning appliances

(IEC 60335-2-2 : 1993)

(Withdrawn, April 2006)

Part 2 : 5 : 2007 Particular requirements for instantaneous water heaters

(IEC 60335-2-35 : 2002)

26pp S\$27.00

Deals with the safety of electric instantaneous water heaters for household purposes of heating water below boiling temperature with a rated voltage not exceeding 250 V for single phase appliances and 480 V for other appliances.

Part 2 : 6 : 1986 Particular requirements for room air conditioners

(Withdrawn, July 1998. Replaced by SS 146 : Part 2 : 16)

Part 2 : 7 : 1999 Particular requirements for stationary cooking ranges, hobs, ovens and similar appliances

(Withdrawn, October 2006)

Part 2 : 8 : 2007 **Particular requirements for storage water heaters**
(IEC 60335-2-21 : 2004)
27pp S\$27.00

Deals with the safety of electric storage water heaters for household and similar purposes intended for heating water below boiling temperature with rated a voltage not exceeding 250 V for single phase appliances and 480 V for other appliances.

Part 2 : 9 : 1997 **Particular requirements for appliances for skin or hair care**
(IEC 60335-2-23 : 1996)
(Withdrawn, October 2006)

Part 2 : 10 : 1998 **Particular requirements for microwave ovens**
(IEC 60335-2-25 : 1996)
(Withdrawn, October 2006)

Part 2 : 11 : 1995 **Particular requirements for spin extractors**
(IEC 60335-2-4 : 1993)
(Withdrawn, October 2005)

Part 2 : 12 : 1996 **Particular requirements for tumble dryers**
(IEC 60335-2-11 : 1993)
(Withdrawn, October 2005)

Part 2 : 13 : 1998 **Particular requirements for kitchen machines**
(IEC 60335-2-14 : 1994)
(Withdrawn, October 2006)

Part 2 : 14 : 1998 **Particular requirements for portable immersion heaters**
(IEC 60335-2-74 : 1994)
(Withdrawn, October 2005)

Part 2 : 15 : 1998 **Particular requirements for toasters, grills, roasters and similar appliances**
(IEC 60335-2-9 : 1993)
(Withdrawn, April 2006)

Part 2 : 16 : 1998 **Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers**
(IEC 60335-2-40 : 1995)
(Withdrawn, February 2008)

Part 2 : 17 : 1998 **Particular requirements for refrigerating appliances and ice-makers**
(IEC 60335-2-24 : 1997)
(Withdrawn, February 2008)

Part 2 : 18 : 2000 **Particular requirements for fan**
(IEC 60335-2-80 : 1997-04)
(Withdrawn, April 2006)

Part 2 : 19 : 2000 **Particular requirements for insect killers**
(IEC 60335-2-59 : 1997-10)
(Withdrawn, February 2008)

NOTE – For the parts that have been withdrawn, users can refer directly to the relevant parts of IEC 60335-2.

SS 147 : 1997 **Vanaspati**
10pp S\$15.00

Applies to vanaspati for edible purposes.

SS 148 : 1976	Reconstituted or recombined milk Amendment No. 1, January 1984 16pp S\$15.00 Covers the requirements for raw materials, manufacture, composition and quality characteristics. Methods of sampling and test are appended. (Confirmed 1984) (Archived, October 2003)
SS 149 : 1976	Electrolytic compressed hydrogen 22pp S\$21.00 Specifies 2 grades of compressed hydrogen. Requirements for oxygen, carbon dioxide, carbon monoxide, water and mercury contents. Methods of test in appendices.
SS 150 : 1998	Emulsion paints for decorative purposes Erratum No. 1, September 1998 Erratum No. 2, November 1998 17pp S\$21.00 Applies to a ready-for-use, air-drying emulsion, flat finish for both exterior and interior use on masonry surfaces including concrete, bricks, stucco, concrete block, cement sheets and sidings, and on suitably primed metal and wood surfaces. Covers the recoating of previously painted surfaces which are in a sound condition.
SS 151 : 1976	Industrial argon 30pp S\$27.00 Specifies requirements for argon gas suitable for use in most welding operations, as an inert atmosphere and as a purge gas. Specifies oxygen, carbon dioxide and other carbon compounds, nitrogen, hydrogen and water contents. Methods of treatment of liquid samples and methods of analysis given in appendices. (Confirmed 1985)
SS 152 : 2003	Identification of contents of industrial gas containers 13pp S\$15.00 Specifies requirements for the identification of the contents of industrial gas containers. Does not cover the identification of medical gas containers.
SS 153 : 1976	Industrial oxygen 20pp S\$21.00 Specifies oxygen, carbon dioxide and total hydrocarbon contents. Method of treatment of liquid samples and methods of analysis are given in appendices. (Confirmed 1985)
SS 154 : 1976	Acetone 22pp S\$21.00 Specifies requirements for acetone suitable for industrial purposes. Colour, relative density, distillation range, residue on evaporation, water content, acidity, alkalinity, permanganate test, alcoholic impurities and methods of test.
SS 155 : 1976	Dissolved acetylene (technical) 15pp S\$15.00 Requirements for technical grade acetylene. Specifies acetylene content, phosphorus, sulphur and ammonium compounds. Methods of test in appendices.
SS 156 : 1976	Moulded polyethylene plastics refuse bins (Withdrawn, April 1994. Replaced by SS 369 : 1994)
SS 157 : 1976	Steel fabricated deck end rollers (Withdrawn, September 2001)
SS 158 : 1976	Bollards (Withdrawn, March 1998)

SS 159 : 1998	Butterfly nuts for ships (Withdrawn, September 2001)
SS 160 : 1998	Rope hole covers for ships (Withdrawn, September 2001)
SS 161 : 1976	Light load derrick booms for ships (Withdrawn, October 1996)
SS 162 : 1998	Roller fairleads for ships (Withdrawn, September 2001)
SS 163 : 1976	Simple type bollards (Withdrawn, March 1998)
SS 164 : 1998	Horizontal rollers for ships (Withdrawn, September 2001)
SS 165 : 1998	Small size steel plate deck-end rollers (Withdrawn, September 2001)
SS 166 : 1976	Small size roller fair-leads for ships (Withdrawn, September 2001)
SS 167 : 1977	General purpose fuse links for domestic and similar purposes (primarily for use in plugs) Amendment No. 1, September 1995 24pp S\$21.00 Specifies dimensions and performance requirements for general purpose cartridge fuse links of current ratings not exceeding 13 A for domestic and similar purposes on declared supply voltages not exceeding 250 V at a nominal frequency of 50 Hz. (Confirmed 1995)
SS 168 : 1977	Hatch wedges (Withdrawn, September 2001)
SS 169 : 1977	Jibs for general use (Withdrawn, October 1996)
SS 170 : 1978	Melamine tableware (Withdrawn)
SS 171 : 1977	Leading blocks for chain type hand steering gear (Withdrawn, March 1998)
SS 172 : 1995	Vegetable cooking oil 8pp S\$11.00 Applies to blended vegetable oil for edible purposes.
SS 173 : 1977	Glossary of terms relating to timber and woodwork 98pp S\$87.00 Provides uniformity in the definitions of terms used in the timber industry. Deals with forest products and processes, including the stage of primary conversion but excluding the various products and processes of secondary manufacture. Structure properties and defects of wood, both in the raw and converted states are included. (Archived, April 2001)
SS 174 : 1977	Joints and fittings for use with unplasticized PVC pressure pipes Amendment No. 1, June 1997 32pp S\$27.00 Covers injection moulded pipe fittings made from unplasticized polyvinyl chloride for solvent welding for use with uPVC pressure pipes conforming to the dimensions of Table 1 of SS 141. Also applies to mechanical and solvent welding joints and fittings of push-fit type made principally from unplasticized polyvinyl chloride for use with uPVC pressure pipes complying

with SS 141. Requirements for materials, dimensions, physical and chemical characteristics, hydrostatic pressure tests and sampling are included. (Confirmed 1997)

- SS 175 : 1993** **Non-refillable metal aerosol dispensers of 50 ml to 1400 ml capacity and up to 85 mm diameter**
 Amendment No. 1, February 1999
 16pp S\$15.00
- Covers requirements for materials, construction, performance, labelling and marking for non-refillable metal aerosol dispensers from 50 ml up to 1400 ml maximum brimful capacity and up to 85 mm internal diameter, pressurized by liquefied, compressed or dissolved propellant gases but excluding compartmented aerosol dispensers.
- Includes requirements for containers closed as in the filling process and ensures the filled aerosol dispenser is safe in respect of pressure performance and integrity throughout its intended life. Also includes specific requirements for the pressure resistance of the unfilled container and the selection and testing of aerosol dispensers to meet anticipated service requirements in terms of pressure resistance and compatibility with contents. (Archived, January 2004)
- SS 176 : 1996** ***Portable aluminium ladder**
 (BS 2037 : 1994)
 28pp GrY
- Specifies requirements for materials, details of construction and performance for portable aluminium ladders, steps, trestles and stagings. (Archived, March 2004)
- SS 177 : 1977** Publishers' catalogues
 (Withdrawn)
- SS 178 : 1977** Title leaves of books
 (Withdrawn)
- SS 179 : 1978** **Peanut butter**
 Erratum No. 1, February 1979
 15pp S\$15.00
- Covers the requirements for composition and quality characteristics, colour and consistency of 2 types of peanut butter. Methods of test to determine mixture, oil content, free fatty acids, protein and limit test for aflatoxins are appended. (Confirmed 1983)
- SS 180 : 1978** Motor vehicle seat belt assemblies
 (Withdrawn, November 1998)
- SS 181 : 1978** Luminaires (lighting fittings) for fluorescent lamps
 (Withdrawn)
- SS 182 : 1995** **Refined and deodorized palm olein**
 9pp S\$15.00
- Applies to palm olein oil for edible and industrial purposes.
- SS 183 : 1978** **Concrete cylindrical pipes and fittings including manholes and street gullies**
 Erratum No. 1, September 1980
 Erratum No. 2, September 1998
 47pp S\$40.00
- Covers concrete cylindrical pipes and fittings, either reinforced with steel or unreinforced, which are intended to be used in the conveyance under atmospheric pressure of sewage or surface water and for the construction of culverts. Includes manholes and street gullies.
- SS 184 : 1978** Double-type cross-bitts for tug boats
 (Withdrawn, September 2001)
- SS 185 : 1996** Fittings for weather-tight steel doors for ships
 (Withdrawn, September 2001)

SS 186 : 1978	ISO metric screw threads: basic profile, standard thread series and limits and tolerances for coarse pitch series and constant pitch series threads 57pp S\$54.00 Relates to single-start, parallel screw threads from 1 mm to 300 mm diameter, having the ISO basic profile for triangular screw threads and metric diameter and pitches. Gives fundamental deviations, tolerances, limits of size and designations. (Confirmed 1990) (Archived, March 2004)
SS 187 : 1978	Qualification test for manual metal-arc welders (Withdrawn, August 2001)
SS 188 : 1978	Insect electrocutors (Withdrawn, replaced by SS 146 : Part 2 : 19)
SS 189 : 1978	Rubber stoppers and tubing of flexible materials for laboratory use (Withdrawn)
SS 190 : 1978	Scouring powder Amendment No. 1, August 1994 21pp S\$21.00 Covers scouring powder, with and without chlorine-containing bleaching agent, for the cleaning of porcelain faces (vitreous types), floors, marble and for general kitchen use. (Confirmed 1994) (Archived, December 2003)
SS 191 : 1983	Latex foam rubber mattresses (Withdrawn)
SS 192 : 1978	School chalks (Withdrawn)
SS 193 : 1983	See SS ISO 128: 1982 (Withdrawn, May 2008. Refer directly to ISO standards)
SS 194 : 1989	Technical drawings - Dimensioning - General principles, definitions, methods of execution and special indications (Withdrawn, May 2008. Refer directly to ISO standards)
SS 195 : 1983	See SS ISO 406 : 1982
SS 196 : 1996	*Technical drawings - Method of indicating surface texture (ISO 1302 : 1992) (Withdrawn, May 2008. Refer directly to ISO standards)
SS 197 : 1978	See SS ISO 2162 : 1973 (Withdrawn, May 2008. Refer directly to ISO standards)
SS 198 : 1978	See SS ISO 2203 : 1973 (Withdrawn, May 2008. Refer directly to ISO standards)
SS 199 : 1978	See SS ISO 3098/1 : 1974 (Withdrawn, May 2008. Refer directly to ISO standards)
SS 200 : 1985	See SS ISO 2553 : 1984
SS 201 : 1978	The marking and arrangement of switchgear busbars, main connections and small wiring (Withdrawn, November 1995)
SS 202 : -	Graphical symbols for diagrams (Withdrawn, January 2004. Refer directly to IEC 60617 database) Part 1 : 1992 Introduction Part 2 : 1999 Symbol elements, qualifying symbols and other symbols having general application (IEC 60617-2 : 1996)

Part 3 : 1999 (IEC 60617-3 : 1996)	Conductors and connecting devices
Part 4 : 1999 (IEC 60617-4 : 1996)	Basic passive components
Part 5 : 1999 (IEC 60617-5 : 1996)	Semiconductors and electron tubes
Part 6 : 1999 (IEC 60617-6 : 1996)	Production and conversion of electrical energy
Part 7 : 1999 (IEC 60617-7 : 1996)	Switchgear, controlgear and protective devices
Part 8 : 1999 (IEC 60617-8 : 1996)	Measuring instruments, lamps and signalling devices
Part 9 : 1999 (IEC 60617-9 : 1996)	Telecommunications : Switching and peripheral equipment
Part 10 : 1999 (IEC 60617-10 : 1996)	Telecommunications : Transmission
Part 11 : 1999 (IEC 60617-11 : 1996)	Architectural and topographical installation plans and diagrams
Part 12 : 1999 (IEC 60617-12 : 1997)	Binary logic elements
Part 13 : 1999 (IEC 60617-13 : 1993)	Analogue elements
SS 203 : 1978	Flexible polyurethane foam for seat cushioning and bedding (Withdrawn)
SS 204 : 1978	*Covered electrodes for the manual metal-arc welding of carbon and carbon manganese steels (Withdrawn, August 2001)
SS 205 : 1978	Vitreous china washdown WC pans - Dimensions and functional requirements (Withdrawn, June 1997)
SS 206 : 1978	Zinc chromate primer (Withdrawn, November 2003. Replaced by SS 494 : 2001)
SS 207 : 1979	Seat belt anchorage points (Withdrawn, November 1996)
SS 208 : 1979	Seats with integral seat belt anchorage points (Withdrawn, November 1996)
SS 209 : 1996	Battery operated emergency power supply for lighting, ventilation and alarm bell of lifts 22pp S\$21.00 Specifies the construction and testing of the emergency power supply unit to ensure that it performs reliably to provide illumination, ventilation and emergency alarm in the event of a failure of the normal power supply.
SS 210 : 1979	Industrial safety belts and harnesses (Withdrawn, July 1998. Replaced by SS 402 : Part 1)

SS 211 : -	<p>Weathertight steel doors for ships (Withdrawn, September 2001)</p> <p>Part 1 : 1998 Steel doors for ships of length below 90m</p> <p>Part 2 : 1998 Steel doors for ships of length equal to or more than 90m</p>
SS 212 : 2007	<p>Aluminium alloy windows 56pp S\$47.00</p> <p>Specifies materials, construction, finishes, hardware and performance standards for aluminium alloy windows. Gives preferred co-ordinating sizes. Does not relate to secondary inner windows and louvre windows.</p>
SS 213 : 1998	<p>Unplasticised PVC pipes and fittings for soil, waste and vent applications 47pp S\$40.00</p> <p>Specifies requirements for unplasticized polyvinyl chloride (UPVC) pipes, fittings and accessories for soil, waste and vent applications above ground.</p>
SS 214 : 1999	<p>Precast concrete kerbs and dividers 22pp S\$21.00</p> <p>Specifies requirements for precast concrete kerbs, and dividers, in a range of sections, lengths and radii, for use in the construction of carriageways and footways.</p>
SS 215 : 1979	<p>Adjustable galvanized steel louvre windows Erratum No. 1, September 1980 23pp S\$21.00</p> <p>Covers material, construction and performance test requirements of adjustable galvanized steel louvre windows. Requirements on packing and marking are included. (Confirmed 2001) (Archived, June 2003)</p>
SS 216 : 1979	<p>Aluminium alloy side scuttles for ships (Withdrawn, October 1996. Replaced by SS 388)</p>
SS 217 : 1996	<p>Industrial safety signs (Withdrawn, January 2005. Replaced by SS 508 series of standards)</p>
SS 218 : 1979	<p>Enamelled round copper wires with a temperature index of 155 (Withdrawn, July 2002)</p>
SS 219 : 1979	<p>Dried noodles and pasta products Amendment No. 1, April 1988 14pp S\$15.00</p> <p>Prescribes requirements and methods of test for dried noodle products made from wheat flour and pasta products made from durum semolina or any other hard wheat flour. (Confirmed 1988) (Archived, May 2005)</p>
SS 220 : 1995	<p>Sesame oil 9pp S\$15.00</p> <p>Applies to sesame oil for edible purposes.</p>
SS 221 : 2002	<p>Road marking paint 12pp S\$15.00</p> <p>Applies to paints based on chlorinated rubber alkyd resins, formulated to adhere to bituminous surfaces, concrete as well as other surfaces commonly used for roadways. Covers white, yellow and red paint.</p>
SS 222 : 1979	<p>Stainless steel slab urinals (Withdrawn, June 2001)</p>

SS 223 : 1979	Safety requirements for children's toys and playthings (Withdrawn, replaced by SS 474)
SS 224 : 1979	See SS ISO 2816 : 1973
SS 225 : 1979	See SS ISO 3355 : 1975
SS 226 : 1979	See SS ISO 3844 : 1977
SS 227 : -	Switches for household and similar fixed-electrical installations Part 1 : 2000 General requirements (IEC 60669-1 : 2000-03) 100pp S\$87.00 Applies to manually operated general purpose switches, for a.c. only with a rated voltage not exceeding 440 V and a rated current not exceeding 63 A, intended for household and similar fixed-electrical installations, either indoors or outdoors. Part 2 : 1 : 2000 Particular requirements for electronic switches (IEC 60669-2-1 : 2000-04) 42pp S\$40.00 Applies to electronic switches and to associated electronic extension units for household and similar fixed electrical installations either indoors or outdoors. Also applies to electronic switches for the operation of lamp circuits and the control of the brightness of lamps (dimmers) as well as the control of the speed of motors (e.g. those used in ventilating fans) and for other purposes (e.g. heating installations), with a working voltage not exceeding 250 V a.c. and a rated current up to and including 16 A.
SS 228 : 1979	Children's restraining devices in motor vehicles (Withdrawn, September 1997)
SS 229 : 1979	Bronze side scuttles for ships (Withdrawn, October 1996. Replaced by SS 388)
SS 230 : 1979	Extruded aluminium alloy rectangular windows for ships (Withdrawn, October 1996. Replaced by SS 392)
SS 231 : 1980	Laundry detergent powder for household use in manual washing Amendment No. 1, August 1994 31pp S\$27.00 Covers the requirements and methods of sampling and testing for synthetic powder detergents for household washing of laundry by hand. (Confirmed 1994) (Archived, December 2003)
SS 232 :	Portable fire extinguishers Part 1 : 1999 Description, duration of operation, Class A and B fire tests 20pp S\$21.00 Specifies the characteristics of description, duration, operation, residual charge and the efficiency test applicable to portable fire extinguishers. Part 2 : 1999 Tightness, dielectric test, tamping test, special provisions 12pp S\$15.00 Specifies the tightness, the dielectric test, the tamping test and special provisions applicable to portable fire extinguishers.

Lays down technical specifications for extinguisher bodies and their accessories. Applies to the bodies of extinguishers in which the service pressure does not exceed 25 bar and to propellant gas cartridges. Also gives requirements relative to carbon dioxide extinguishers' bodies.

Specifies the charges of portable fire extinguishers and the minimum required fire i.e. the maximum quantity of extinguishing medium that is to be used for the extinction of a given fire size.

Specifies the characteristics of effective range of operating temperatures, requirements for components, resistance to corrosion, brackets, identification of the extinguisher and periodical checking.

Establishes general principles for attesting the conformity of portable fire extinguishers to SS 232 Parts 1 to 5. Specifies methods for type testing and control during manufacture.

Specifies the performance and dimensional requirements for rubber tubing, hose and complete assemblies for use in LPG vapour phase installations in environments up to a maximum ambient temperature of 60 °C. Specifies only one bore size for tubing only so as to eliminate the possibility of gas leakage when a larger tubing is used on a smaller inlet nozzle of an existing appliance.

SS 236 : 1980 Flexible cords
(Withdrawn, partially replaced by SS 358 : Part 5 : 1991)

Prescribes requirements and the methods of test for 2 types of rice vermicelli. (Confirmed 1988)

Prescribes requirements and methods of test for tomato ketchup. Includes packaging and marking.

SS 239 : 1980	Liquefied petroleum gas 55pp S\$47.00 Specifies requirements for liquefied petroleum gas for use as a fuel for domestic, commercial and industrial purposes. (Confirmed 1998) (Archived, July 2003)
SS 240 : 1980	Ropes made from natural and synthetic fibres (Withdrawn)
SS 241 : 1996	General requirements for electrical accessories 65pp S\$60.00 Specifies requirements and tests to check the safety in normal use of electrical accessories which are not covered by other specific Singapore Standards. Such accessories are intended for use in household, commercial and light industrial premises where: <ul style="list-style-type: none"> - the normal supply voltage does not exceed 250 V a.c. single-phase, 50 Hz or 250 V dc; - the rated current of the accessory does not exceed 63A; - the rated current of an accessory incorporating screwless terminals does not exceed 13A. Also covers 'plug-in' and other accessories in which electrical accessory components are incorporated, e.g. plug-pins, socket-contacts, switches, terminals, etc. (Confirmed, October 2008)
SS 242 : 1980	See SS ISO 2859 : 1974
SS 243 : -	Rubber condoms (Withdrawn, September 2003. Refer directly to ISO 4074: 2002) Part 1 : 1999 Requirements (ISO 4074-1 : 1996) Part 2 : 1999 Determination of length (ISO 4074-2 : 1994) Part 3 : 1999 Determination of width (ISO 4074-3 : 1994) Part 5 : 1999 Testing for holes - Water leak test (ISO 4074-5 : 1996) Part 6 : 1999 Determination of bursting volume and pressure (ISO 4074-6 : 1996) Part 7 : 1999 Oven conditioning (ISO 4074-7 : 1996)
SS 244 : 1980	Toothpaste Amendment No. 1, August 1994 11pp S\$15.00 Specifies requirements for toothpastes, presented in paste form, for use with a toothbrush in the cleaning of natural teeth. (Confirmed 1994) (Archived, December 2003)
SS 245 : 1995	Glass reinforced polyester sectional water tanks 37pp S\$34.00 Specifies requirements for glass reinforced polyester sectional water tanks.

SS 246 : 2004	Fused and unfused adaptors 89pp S\$80.00 Specifies the requirements for adaptors, including shaver adaptors, having insulating sleeves on the line and neutral plug pins and suitable for use with socket-outlets complying with SS 145. Socket contacts on the adaptor shall only accept plug pins of configurations of 13 A plug to SS 145, 2.5 A flat non-rewirable plugs to BS EN 50075 : 1990 Standard Sheet 1 and 2-pin reversible plugs to BS 4573 : 1970.
SS 247 : 1981	Thermal detectors for electrical fire alarm systems (Withdrawn, October 2007. Refer directly to the EN 54 series of standards)
SS 248 : 1981	Terrazzo tiles Amendment No. 1, November 1996 24pp S\$21.00 Specifies requirements for machine-pressed terrazzo floor and wall tiles. (Confirmed 1996) (Archived, July 2004)
SS 249 : 1981	Steel surface cable trunking and accessories Amendment No. 1, October 1997 16pp S\$15.00 Specifies requirements for steel surface cable trunking, associated steel connectors and steel accessories, intended for the protection of cables in electrical installations. Does not relate to bench, flushfloor, overhead lighting, skirting or underfloor trunking and is limited to the standardization of overall dimensions and to the classification of steel trunking according to the type of protective finish against corrosion. (Confirmed 1986)
SS 250 : 1996	Fittings for small steel hatch covers for ships (Withdrawn, September 2001)
SS 251 : 1996	*Fluid power systems and components - Graphic symbols and circuit diagram - Graphic symbols (ISO 1219-1 : 1991) Amendment No. 1 November 1996 40pp GrY Establishes principles for the use of symbols and specifies basic symbols and rules for devising functional symbols. Includes examples of functional symbols.
SS 252 : 1995	Palm kernel oil 9pp S\$15.00 Applies to palm kernel oil for edible and industrial purposes of the following two categories: - Crude palm kernel oil - Refined and deodorised palm kernel oil
SS 253 : 1981	White pan bread 12pp S\$15.00 Prescribes the requirements and methods of test for white bread.
SS 254 : -	Electrical apparatus for explosive gas atmospheres Part 0 : 2001 General requirements (IEC 60079-0 : 2000-06) 58pp S\$54.00 Specifies the general requirements for construction, testing and marking of electrical apparatus, Ex cable entries and Ex components, intended for use in potentially explosive atmospheres of gas, vapour and mist. Does not specify requirements for safety, other than those directly related to explosion risk.

Part 1 : 2001 Flameproof enclosures 'd'
(IEC 60079-1 : 2001-02 and IEC 60079-1A : 1975)
67pp S\$60.00

To be used in conjunction with SS 254 : Part 0 - General requirements. Specific requirements for the construction and testing of electrical apparatus with the type of protection flameproof enclosures "d", intended for use in potentially gas atmospheres. Typical application of this technique of protection by containment could be found in the installations of switchgear, motor and pumps in the process industries.

Part 2 : 2002 Pressurized enclosures 'p'
(IEC 60079-2 : 2001-02)
53pp S\$47.00

To be used in conjunction with SS 254 : Part 0 - General requirements. Gives requirements for the design, construction, testing and marking of electrical apparatus for use in potentially explosive atmospheres in which:

- a) a protective gas maintained at a pressure above that of the external atmosphere is used to guard against the formation of an explosive gas atmosphere within enclosures which do not contain an internal source of release of flammable gas or vapour and where necessary,
- b) a protective gas is provided in sufficient quantity to ensure that the resultant mixture concentration around the electrical parts is maintained at a value outside the explosive limit appropriate to the particular conditions of use. The protective gas is supplied to an enclosure containing one or more internal sources of release in order to guard against the formation of an explosive gas atmosphere.

Includes requirements for the apparatus and its associated equipment including the inlet and exhaust ducts, and also for the auxiliary control apparatus necessary to ensure that pressurisation and/or dilution is established and maintained.

Part 3 : 1997 Spark-test apparatus for intrinsically-safe circuits
(IEC 60079-3 : 1990)
(Withdrawn, February 2003. Requirements incorporated in SS 254-11 : 2003)

Part 4 : 1997 Oil-immersion "o"
(IEC 60079-6 : 1995)
(Withdrawn, November 2003. Refer directly to IEC 60079-6 : 1995)

Part 5 : 1982 Sand-filled apparatus
Withdrawn, November 2003. Refer directly to IEC 60079-5 : 1997)

Part 6 : 2003 Increased safety "e"
(IEC 60079-7 : 2001-11)
71pp S\$60.00

To be used in conjunction with SS 254 : Part 0 - General requirements. Specifies the requirements for the design, construction, testing and marking of electrical apparatus, with a rated value of supply voltage not exceeding 11 kV r.m.s. a.c. or d.c. with type of protection "e" that does not produce sparks, arcs or dangerous temperatures in normal operations.

Part 7 : 1982 Method of test for ignition temperature
Amendment No. 1, October 1997
17pp S\$21.00

Gives methods of test intended for use in the determination of the ignition temperature of a chemically pure vapour or gas in air at atmospheric pressure. (Confirmed 1997) (Archived, November 2003)

Part 8 : 1982 Classification of maximum surface temperature
(Withdrawn, October 1997)

Part 9 : 1982 Marking
(Withdrawn, October 1997)

Part 10 : 2003 Classification of hazardous areas
(IEC 60079-10 : 2002-06)
62pp S\$54.00

To be used in conjunction with SS 254 : Part 0 - General requirements. Concerned with the classification of hazardous areas and provides a proper selection and installation of apparatus for use in hazardous areas where flammable gas/vapour risks may arise. Intended to be applied where there may be a risk of ignition due to the presence of flammable gas/vapour, mixed with air under normal atmospheric conditions. Requirements are supplementary to those in SS 254 : Part 0 : 2001 which apply to the classification of hazardous areas. In areas where dangerous quantities and concentrations of flammable gas/vapour may arise, protective measures are to be applied in order to reduce the risk of explosions. Sets out the essential criteria against which the risk of ignition can be assessed, and gives guidance on the design and control parameters which can be used in order to reduce such a risk.

Part 11 : 2003 Intrinsic safety "i"
(IEC 60079-11 : 1999-02)
98pp S\$87.00

To be used in conjunction with SS 254 : Part 0 - General requirements. Specifies the construction and testing of intrinsically safe apparatus, intended for use in potentially explosive atmospheres and for associated apparatus, which is intended for connection to intrinsically safe circuits which enter such atmospheres. Contains details of the test apparatus previously covered in SS 254 : Part 3 which has been withdrawn.

Part 14 : 2005 Electrical installations in hazardous areas (other than mines)
(IEC 60079-14 : 2002-10)
67pp S\$60.00

Specific requirements for the design, selection and erection of electrical installations in explosive gas atmospheres. Used in addition to the requirements of SS CP 5 for installations in non-hazardous areas. Applies to all electrical equipment and installations in hazardous areas whether permanent, temporary, portable, transportable or hand-held. It is intended for installations at all voltages.

SS 255 : 1981 Outlet units for master and community television antenna systems
Amendment No.1. November 1990
21pp S\$21.00

Gives the requirements of 75 ohm output impedance outlet units for master and community television antenna systems which receive and distribute signals within the frequency range of 40 MHz to 960 MHz according to the CCIR system. (Confirmed 1990) (Archived, May 2005)

SS 256 : 1996 Diaphragm type float operated valves (plastics bodied) for cold water services only (excluding floats)
(Withdrawn, May 2003)

SS 257 : - Technical drawings
(Withdrawn, May 2008. Refer directly to ISO standards)

Part 1 : 1984 See SS ISO 1101: 1983

Part 2 : 2000 Geometrical tolerancing – Maximum material principle
(ISO 2692 : 1988)

Part 3 : 1996 *Dimensioning and tolerancing of profiles
(ISO 1660 : 1987)

SS 258 : 1982 *Technical drawings - Dimensioning and tolerancing cones
(ISO 3040 : 1974)
(Withdrawn, replaced by SS ISO 3040 : 1990)

- SS 259 : 1982** **Electric navigation lights**
17pp S\$21.00
- Gives the technical requirements and tests for electric navigation lights which are used in vessels and in compliance with the International Regulations for Preventing Collisions at Sea, 1972. Non-electric lights shall comply as closely with this specification as is practicable. (Archived, May 2005)
- SS 260 : 1982** **Skimmed and whole milk powder**
Amendment No. 1, December 1986
18pp S\$21.00
- Covers the requirements and methods of the test for skimmed and whole milk powder for human consumption. (Confirmed 1986) (Archived, October 2003)
- SS 261 : 1997** Industrial safety gloves and mittens
(Withdrawn, January 2005. Replaced by SS EN 402 : 2003)
- SS 262 : -** **Garment sizing**
- Part 1 : 1982 *Definitions and body measurement procedure
(Withdrawn)
- Part 2 : 1982 Men's and boys' outerwear garments
(Withdrawn)
- Part 3 : 1982 Women's and girls' outerwear garments
(Withdrawn)
- Part 4 : 1982 Infants' garment
(Withdrawn)
- Part 5 : 1982 *Men's and boys' underwear, nightwear and shirts
(Withdrawn)
- Part 6 : 1982 See SS ISO 4416 : 1981
- SS 263 : -** **Luminaires**
- Part 1 : 2005** **General requirements and tests**
(IEC 60598-1 : 2003)
Amendment No. 1, May 2007
188pp S\$140.00
- Covers general requirements for luminaires incorporating light sources for the classification and marking and for their mechanical and electrical construction, together with related tests up to supply voltages of 1000 V. Used in other parts of SS 263 to provide requirements for different types of luminaires.
- Part 2 : 1998** **Particular requirements for luminaires for emergency lighting**
(IEC 60598-2-22 : 1997)
Amendment No. 1, January 2003
Amendment No. 2, October 2008
26pp S\$27.00
- Specifies requirements for emergency lighting luminaires for use with tungsten filament fluorescent and other discharge lamps on emergency power supplies not exceeding 1000 V.
- Part 3 : 1989 *Particular requirements for fixed general purpose luminaires
(IEC 60598-2-1 : 1979)
(Withdrawn, September 2005)
- Part 4 : 2000 Particular requirements for recessed luminaires
(IEC 60598-2-2 : 1997)
(Withdrawn, February 2008)

- Part 5 : 2000 Particular requirements for road and street lighting
(IEC 60598-2-3 : 1997)
(Withdrawn, February 2008)
- Part 6 : 1998 Particular requirements for portable general purpose luminaires
(IEC 60598-2-4 : 1997)
(Withdrawn, February 2008)
- Part 7 : 1996 *Particular requirements for luminaires with built-in transformers for filament lamps
(IEC 60598-2-6 : 1994)
(Withdrawn, September 2005).
- Part 8 : 1998 Particular requirements for floodlights
(IEC 60598-2-5 : 1998)
(Withdrawn, February 2008)
- Part 9 : 1990 *Particular requirements for portable luminaires for garden use
(IEC 60598-2-7 : 1982)
(Withdrawn, September 2005).
- Part 10 : 2000 Particular requirements for lighting chains
(IEC 60598-2-20 : 1998)
(Withdrawn, October 2006).
- Part 11 : 1997 *Particular requirements for luminaires for swimming pools and similar applications
(IEC 60598-2-18 : 1993)
(Withdrawn, September 2005).
- Part 12 : 1997 *Particular requirements for air-handling luminaires
(IEC 60598-2-19 : 1981)
(Withdrawn, September 2005).
- Part 13 : 1997 *Particular requirements for handlamps
(IEC 60598-2-8 : 1996)
(Withdrawn, September 2005).

NOTE – For the parts that have been withdrawn, users can refer directly to the relevant parts of IEC 60598-2.

SS 264 : 1982 Pewter
(Withdrawn, September 2007)

SS 265 : 1982 *Black tea
(ISO 3720 : 1981)
(Withdrawn)

SS 266 : - Methods of analysis for tea
(Withdrawn)

Part 1 : 1982 *Preparation of ground sample of known dry matter content
(ISO 1572 : 1980)

Part 2 : 1982 *Determination of loss in mass at 103°C
(ISO 1573 : 1980)

Part 3 : 1982 *Determination of water extract
(ISO 1574 : 1980)

Part 4 : 1982 *Determination of total ash
(ISO 1575 : 1980)

Part 5 : 1982 *Determination of water-soluble ash and water-insoluble ash
(ISO 1576 : 1975)

	Part 6 : 1982 (ISO 1577 : 1980)	*Determination of acid-insoluble ash
	Part 7 : 1982 (ISO 1578 : 1975)	*Determination of alkalinity of water-soluble ash
SS 267 : 1982	*Tea sampling (ISO 1839 : 1980) (Withdrawn)	
SS 268 : 1983	Aluminium framed sliding glass doors Erratum No. 1, June 1986 23pp S\$21.00	
	Specifies requirements for single aluminium framed sliding doors for general purposes. Does not include double glazed aluminium framed sliding doors, sliding folding doors and heavy duty non-residential sliding doors. Also does not include sliding doors containing panels which exceed 1500 mm in width or 2400 mm in height. (Confirmed 2001) (Archived, June 2003)	
SS 269 : 1995	*Paint colours for building purposes (BS 4800 : 1989) 12pp GrY	
	Specifies 100 colours for paint and their available surface finishes for building purposes. These colours have been selected from the framework of 237 colours in BS 5252, which aims to ensure co-ordination with the selections for other materials and applications. Available as a folder (with an explanatory text and a mask to be used in conjunction with BS 5252 – 'Framework for colour co-ordination for building purposes') and as individual shade cards of approximately 10 cm x 15 cm. (Confirmed 2003)	
SS 270 : 1996	Elastomeric seals for joints in pipework and pipelines 21pp S\$21.00	
	Specifies requirements and test methods for solid elastomeric joint seals for use in the jointing of pipes for potable water and drainage.	
SS 271 : 1983	Concrete masonry units (for non-loadbearing applications) 28pp S\$27.00	
	Specifies materials, dimensional tolerances and minimum performance levels for concrete masonry units made from a mixture of Portland cement, suitable aggregates with or without the inclusion of suitable additives for use in nonloadbearing masonry walls. Covers solid (including lightweight concrete) and hollow units. (Supersedes the requirements for Class 'B' type of blocks and bricks as given in SS 76M : 1975)	
SS 272 : 1983	Unplasticized PVC pipes below ground for drainlines and sewers Erratum No. 1, January 1985 Amendment No. 1, February 1996 43pp S\$40.00	
	Specifies the requirements for unplasticized polyvinyl chloride (pipes and fittings, and accessories) for drainlines and sewers carrying sewage and/or waste water for use below ground (Confirmed 1996).	
SS 273 : 1983	Ball pen (Withdrawn, September 2007)	
SS 274 : 1983	See SS ISO 6411 : 1982 (Withdrawn, May 2008. Refer directly to ISO standards)	

SS 275 : 1999	Cable trunking made of insulating material Erratum No. 1, May 2000 Amendment No. 1, February 2001 23pp S\$21.00 Specifies requirements for cable trunking made of insulating material. Such trunkings are expected to accommodate and segregate insulated conductors, cables or cords. Does not cover ducting systems.
SS 276 : 1984	Capacity measurement and energy consumption test methods for household refrigerators and combination refrigerator-freezers (Withdrawn, July 2000)
SS 277 : 1984	*Low-voltage controlgear: contactors (IEC 60158-1 : 1970 with Supplements 158-1A, 158-1B and 158-1C and Amendment No. 1) (Withdrawn, August 1997)
SS 278 : -	Primary batteries (Withdrawn, January 1993) Part 1 : 1984 *General (IEC 60086-1 : 1982) Part 2 : 1984 *Primary batteries – Specification sheets (IEC 60086-2 : 1982)
SS 279 : 1984	Degrees of protection of enclosures for switchgear and controlgear for voltages up to 1000 V a.c. and 1500 V d.c. (Withdrawn, August 1997)
SS 280 : -	Metal scaffoldings Part 1 : 2006 Frame scaffoldings 43pp S\$40.00 Specifies the minimum requirements for metal scaffolding for use as temporary structures on which persons work. These structures provide support for the materials used. Applies to construction, maintenance, repair and demolition work in building, shipbuilding and shiprepairing, petrochemical and other industries.
SS 281 : 1984	Pressure regulators for liquefied petroleum gases Amendment No. 1, November 1989 Amendment No. 2, January 2004 20pp S\$21.00 Specifies materials, construction, performance and testing requirements of low and high pressure regulators with screwed and clip-on connectors for use with liquefied petroleum gas mixtures in the vapour phase. (Confirmed 1989)
SS 282 : 1984	*Metal cutting bandsaw blades (BS 3877 : 1979) (Withdrawn)
SS 283 : 1984	See SS ISO 3166 : 1981
SS 284 : 1984	See SS ISO 4217 : 1981
SS 285 : 1984	Liquid detergent for hand dishwashing Amendment No. 1, August 1994 22pp S\$21.00 Cover the requirements and methods of test for liquid detergents for hand dishwashing consisting mainly of anionic surface active agents. (Confirmed 1994) (Archived, December 2003)

SS 286 : -	Caution labelling for hazardous substances
	Part 1 : 1984 Classification and class labels for hazardous substances
	Part 2 : 1984 United Nations substance identification numbers
	Part 3 : 1984 HAZCHEM emergency action code
	Part 4 : 1984 Marking of packages, containers and vehicles
	Part 5 : 1984 NFPA hazard identification system
	(Withdrawn, September 2008. Refer to SS 586 : Parts 1 to 3 : 2008)
SS 287 : 1984	Cream crackers
	16pp S\$15.00
	Covers the requirements and methods of test of cream crackers.
SS 288 : 1998	Soy sauce
	20pp S\$21.00
	Specifies soy sauce, a condiment for edible purposes. Specifies the chemical and physical characteristics of two different grades of light and dark soy sauce.
SS 289 : -	Concrete
	Part 1 : 2000 Guide to specifying concrete
	33pp S\$34.00
	Gives guidance on the selection of materials for concrete and on the mixes to be specified to produce concrete having the required properties in the fresh and hardened state. Also gives guidance on sampling for strength conformity testing and action to be taken in the event of non-conformity.
	Part 2 : 2000 Methods for specifying concrete mixes
	20pp S\$21.00
	Gives methods for specifying concrete.
	Part 3 : 2000 Specification for the procedures to be used in producing and transporting concrete
	15pp S\$15.00
	Specifies the procedures to be followed when producing and transporting concrete.
	Part 4 : 2000 Specification for the procedures to be used in sampling, testing and assessing compliance of concrete
	17pp S\$21.00
	Specifies the procedures to be followed when assessing the quality of concrete for compliance with a specification prepared in accordance with SS 289 : Part 2.
SS 290 : 1984	Rubber gloves for electrical purposes (Withdrawn, May 2005)
SS 291 : 1996	Conductors in insulated cables and cords (IEC 60228 : 1978) (Withdrawn, September 2005. Refer directly to IEC 60228).
SS 292 : 1984	Safety nets for construction sites
	Amendment No. 1, November 1994
	16pp S\$15.00
	Specifies requirements for safety nets made from man-made fibres and designed to catch personnel falling while working on high buildings or carrying out structural work. Covers

requirements for nets capable of retaining a man falling directly from a height of up to 6 m above the lowest point of anchorage of the net. Does not cover the use of nets in lift shaft smaller than 4 m by 3 m. (Confirmed 1994) (Archived, March 2005)

- SS 293 : - Low-voltage switchgear and controlgear assemblies
- Part 1 : 1997 *Type-tested and partially type-tested assemblies
(IEC 60439-1 : 1992)
(Withdrawn, March 2003. Replaced by SS 482 : Part 1 : 2000)
- Part 2 : 1987 Particular requirements for fuseboards
(Withdrawn, October 1997)
- Part 3 : 1997 *Particular requirements for low-voltage switchgear and controlgear assemblies intended to be installed in places where unskilled persons have access for their use - Distribution boards
(IEC 60439-3 : 1990)
(Withdrawn, March 2003. Refer directly to IEC 60439-3 : 2001)
- SS 294 : 1998 Valves for use with domestic and industrial liquefied petroleum gas (LPG) cylinders**
28pp S\$27.00
- Specifies the materials, construction, performance and test requirements for valves for use with domestic and industrial LPG cylinders. (Archived, July 2004)
- SS 295 : 1984 Hard boiled sweets
(Withdrawn)
- SS 296 : 1984 Transistorised ballasts for tubular fluorescent lamps
(Withdrawn)
- SS 297 : 1996 Steel wire ropes for hoisting**
43pp S\$40.00
- Specifies requirements for the most commonly used steel wire ropes for hoisting and winching operations. Does not apply to wire ropes which are intended to be used for special purposes e.g. aircraft controls, pre-stressed concrete, passenger lifts/hoists.
- SS 298 : 1985 Rubber mats for electrical purposes
(Withdrawn, May 2005)
- SS 299 : - Fire resistant cables**
- Part 1 : 1998 Performance requirements for cables required to maintain circuit integrity under fire conditions**
Amendment No. 1, October 2008
32pp S\$27.00
- Specifies the performance requirements and provide test methods for mechanical and fire tests applicable to cables rated at voltages not exceeding 600/1000 V.
- SS 300 : - Methods of test for gases evolved during combustion of electric cables
- Part 1 : 1985 Method of determination of amount of halogen acid gas evolved during combustion of polymeric materials taken from cables
(Withdrawn)
- SS 301 : 1985 Ceramic floor and wall tiles
(Withdrawn, replaced by SS 483)
- SS 302 : 1985 Soya bean milk and soya bean drink**
21pp S\$21.00
- Covers the requirements and methods of test for soya bean milk and soya bean drink, one of the most popular noncarbonated beverages in Singapore. Aims to improve product quality in the interest of consumers.

SS 303 : 1985	Scaffold boards and metal deckings (Withdrawn, September 2001)
SS 304 : 1985	Industrial overall (Withdrawn, obsolete, October 2006)
SS 305 : 1985	School exercise books and papers (Withdrawn)
SS 306 : -	Safety of hand-held motor-operated electric tools (Withdrawn, October 2003. Refer directly to relevant parts of IEC 60745)
	Part 1 : 1985 General requirements
	Part 2 : - Particular requirements
	Part 2 : 1 : 1985 Screwdrivers and impact wrenches
	Part 2 : 2 : 1985 Sheet metal shears
	Part 2 : 3 : 1985 Concrete vibrators (internal vibrators)
	Part 2 : 4 : 1985 Sanders
	Part 2 : 5 : 1985 Circulars saws and circular knives
	Part 2 : 6 : 1985 Grinders, polishers and disk-type sanders
	Part 2 : 7 : 1985 Tappers
	Part 2 : 8 : 1985 Reciprocating saws (jig and sabre saws)
	Part 2 : 9 : 1985 Planers
	Part 2 : 10 : 1985 Hedge trimmers and grass shears
SS 307 : 1996	Portable cable reels for domestic and similar purposes 42pp S\$40.00
	Applies to portable cable reels for alternating current (a.c.) only, having a rated voltage not exceeding 250V, rated current not exceeding 13A and provided with a non-detachable flexible cable or cord, intended for domestic and similar purposes, either indoors or outdoors. Does not apply to cable reeling devices incorporated in appliances.
SS 308 : -	Part 0 : 1988 <i>Re-numbered as SS ISO 9000 : 1988</i> <i>Replaced by SS ISO 9000-1 : 1994</i>
	Part 1 : 1988 <i>Re-numbered as SS ISO 9001 : 1988</i> <i>Replaced by SS ISO 9001 : 1994</i>
	Part 2 : 1988 <i>Re-numbered as SS ISO 9002 : 1988</i> <i>Replaced by SS ISO 9002 : 1994</i>
	Part 3 : 1988 <i>Re-numbered as SS ISO 9003 : 1988</i> <i>Replaced by SS ISO 9003 : 1994</i>
	Part 4 : 1988 <i>Re-numbered as SS ISO 9004 : 1988</i> <i>Replaced by SS ISO 9004-1 : 1994</i>
SS 309 : 1985	Method for the determination of shading coefficients of glazing materials (Withdrawn, June 2004. Refer directly to ISO 9050 : 2003, BS EN 410 : 1998 and ASTM E-903 : 1996)

SS 310 : 1986	Concrete interlocking roofing tiles Amendment No. 1, February 1996 17pp S\$21.00 Applies to concrete interlocking tiles of the general type and their associated accessory tiles. Establishes minimum standards for fit and finish for quality of materials used in manufacture and for dimensional requirements related to side lap and location fixings, without restricting overall design or size of the tiles and their accessory tiles. (Confirmed 1996) (Archived, February 2004)
SS 311 : 2005	Steel tubes and fittings used in tubular scaffolding 25pp S\$27.00 Specifies the minimum requirements for steel tubes and related fittings for use in tubular scaffolding as temporary structures for access or on which persons work. These structures also provide support for the materials used. Applies to construction, maintenance, repair and demolition work in building, shipbuilding and repair, petrochemical and other industries.
SS 312 : 1986	Toilet bowl cleaning compound 13pp S\$15.00 Specifies the requirements and methods of test for a sodium bisulfate type of cleaning compound for use as a toilet bowl cleaner. (Confirmed 1994) (Archived, December 2003)
SS 313 : 1998	*Lighter (ISO 9994 : 1995) 14pp GrY Establishes requirements for lighters to ensure a reasonable degree of safety for normal use or reasonably foreseeable misuse of such lighters by users. Applies to all flame-producing products commonly known as cigarette lighters, cigar lighters and pipe lighters. Does not apply to matches and other flame-producing products intended solely for igniting materials other than cigarettes, cigars and pipes. (Archived, March 2004)
SS 314 : 1986	Industrial eye-protectors (Withdrawn, replaced by SS 473)
SS 315 : 1997	Black pepper and white pepper (whole and ground) Erratum No. 1, December 1998 70pp S\$60.00 Specifies requirements for pepper, whole and ground of the following commercial stages: <ul style="list-style-type: none"> (a) Pepper sold by the producing country without cleaning or after a partial cleaning, without preparation or grading, called 'non-processed (NP) or semi-processed (SP) pepper'; (b) Pepper sold by the producing country after cleaning, preparation and/or grading, called 'processed (P) pepper'.
SS 316 : 1986	Testing and rating room air conditioners (Withdrawn, November 1998)
SS 317 : 1986	Permanent anchors for industrial safety belts and harnesses (Withdrawn, July 1998. Replaced by SS 402 : Part 2)
SS 318 : 1987	Current transformers for measurement and protection (Withdrawn, March 2004. Refer directly to IEC 60044-1 : 2003)
SS 319 : 1997	Cocoa butter 16pp S\$15.00 Applies to cocoa butter used as an ingredient in the manufacture of cocoa butter and chocolate for edible purposes. Cocoa butter shall be categorised as follows: Pressed cocoa butter, expeller cocoa butter and refined cocoa butter.

SS 320 : 1987	Concrete admixtures 34pp S\$34.00 Specifies the requirements and methods of test for seven categories of admixtures which may be used to modify one or more properties of hydraulic cement concrete: the workability, strength and rate of stiffening and hardening.
SS 321 : 1987	Corrugated fibreboard containers for general purposes Erratum No. 1, November 1987 Amendment No. 1, September 1997 58pp S\$54.00 Serves as a guide to both users and manufacturers on the requirements of testing and manufacturing of fibreboard containers. Applies to fibreboard containers for the packaging of contents which require normal protection and which are not subjected to extreme conditions during transport, handling and storage. Should not be used in conjunction with shipment of dangerous goods and explosives, or to meet hazardous conditions of transit and storage. (Confirmed 1997) (Archived, February 2004)
SS 322 : 1987	Earthing and bonding clamps Amendment No. 1, June 1999 15pp S\$15.00 Spells out the sizes, performance requirements and material of clamps used in the earthing and/or bonding functions during electrical installation. Applies only to clamps having termination that affect connection to the conductor via use of screw threads. Does not include other methods of connection of a more permanent nature such as soldering, welding or crimping, without the use of a separate cable socket. (Confirmed, October 2008)
SS 323 : -	Methods of test for flexible plastic packaging materials Consists of a general introduction and 21 parts which specify methods of test for flexible plastic packaging materials. Part 0 : 1987 General introduction (Confirmed 1996) (Archived, February 2004) 6pp S\$11.00 Group A Physical Properties Part A1 : 1987 Determination of thickness (Confirmed 1996) (Archived, February 2004) 3pp S\$11.00 Part A2 : 1987 Determination of density by the density- gradient technique (Confirmed 1996) (Archived, February 2004) 11pp S\$15.00 Group B Optical Properties Part B1 : 1987 Determination of haze and luminous transmittance of transparent plastics (Confirmed 1996) (Archived, February 2004) 11pp S\$15.00 Part B2 : 1987 Determination of specular gloss (Confirmed 1996) (Archived, February 2004) 8pp S\$11.00 Part B3 : 1987 Determination of transparency (Confirmed 1996) (Archived, February 2004) 5pp S\$11.00 Group C Mechanical Properties Part C1 : 1987 Determination of tensile strength (Confirmed 1996) (Archived, February 2004) 9pp S\$15.00

Part C2 : 1987 **Determination of impact resistance (by falling weight method)**
(Confirmed 1996) (Archived, February 2004)
9pp S\$15.00

Part C3 : 1996 ***Determination of initial tear resistance** (Archived, February 2004)
(ISO 6383-2 : 1983)
6pp GrY

Part C4 : 1987 **Determination of openability** (Confirmed 1996) (Archived, February 2004)
4pp S\$11.00

Part C5 : 1987 **Determination of static and kinetic coefficients of friction**
(Confirmed 1996) (Archived, February 2004)
8pp S\$11.00

Group D Chemical Properties

Part D1 : 1987 **Assessment of odour from packaging materials used for foodstuff** (Confirmed 1996) (Archived, February 2004)
9pp S\$15.00

Part D2 : 1987 **Determination of odour resistance/taint from environment**
(Confirmed 1996) (Archived, February 2004)
4pp S\$11.00

Part D3 : 1987 **Determination of residual solvent** (Confirmed 1996) (Archived, February 2004)
11pp S\$15.00

Part D4 : 1987 **Determination of resistance to grease and oil** (Confirmed 1996) (Archived, February 2004)
3pp S\$11.00

Part D5 : 1987 **Determination of residual vinyl chloride monomer content in PPB range in vinyl chloride homo- and co-polymers by head-space gas chromatography** (Confirmed 1996) (Archived, February 2004)
8pp S\$11.00

Part D6 : 1987 **Determination of residual styrene monomer in polystyrene by gas chromatography** (Confirmed 1996) (Archived, February 2004)
6pp S\$11.00

Group E Barrier Properties

Part E1 : 1987 **Determination of water vapour transmission** (Confirmed 1996) (Archived, February 2004)
8pp S\$11.00

Part E2 : 1987 **Determination of gas permeability characteristics** (Confirmed 1996) (Archived, February 2004)
24pp S\$21.00

Group F Thermal Properties

Part F1 : 1987 **Determination of heat seal strength** (Confirmed 1996) (Archived, February 2004)
5pp S\$11.00

Part F2 : 1987 **Determination of unrestrained linear thermal shrinkage**
(Confirmed 1996) (Archived, February 2004)
7pp S\$11.00

Group G Other Properties

	Part G1 : 1987 Determination of printability (Confirmed 1996) (Archived, February 2004) 6pp S\$11.00
SS 324 : 1988	XLPE insulated power cables for rated voltages of up to 600/1000 V (Withdrawn, August 1998. Replaced by SS 443)
SS 325 : 1988	Electrical safety requirements for room aerials (Withdrawn, May 2005)
SS 326 : 1988	Break mandrel blind rivets 18pp S\$21.00 Establishes the dimensional, mechanical and performance requirements of break mandrel blind rivets suitable for use in joining the component parts of an assembly. Includes the shear and tensile strengths of rivets in design work. (Archived, March 2004)
SS 327 : 1988	Waterless hand cleaner 16pp S\$15.00 Specifies a waterless hand cleaner that is used to clean grease-based soils from the hands and is removed by wiping or water rinse. Provides basic requirements and test methods for assessing the quality of waterless hand cleaners for industrial use. (Confirmed 1994) (Archived, December 2003)
SS 328 : -	Methods of test for the evaluation of electroplated finishes (Withdrawn, October 2007. Refer directly to the relevant ISO standards) Part 0 : 1989 Introduction Group A General Part A1 : 1988 Electroplating and related processes – Vocabulary (ISO 2080 : 1981) Group B Measurement of coating thickness Part B1 : 1988 Metallic and other non-organic coatings – Definitions and conventions concerning the measurement of thickness (ISO 2064 : 1980) Part B2 : 1988 Metallic and non-organic coatings – Review of methods of measurement of thickness (ISO 3882 : 1986) Part B3 : 1988 Metallic and oxide coatings – Measurement of coating thickness- Microscopical method (ISO 1463 : 1982) Part B4 : 1988 Metallic coatings – Measurement of coating thickness –Coulometric method by anodic dissolution (ISO 2177 : 1985) Part B5 : 1988 Non-magnetic coatings on magnetic substrates – Measurement of coating thickness – Magnetic method (ISO 2178 : 1982) Part B6 : 1988 Electrodeposited nickel coatings on magnetic and non-magnetic substrates – Measurement of coating thickness – Magnetic method (ISO 2361 : 1982) Part B7 : 1988 Eddy current method for non-conductive coatings on non-magnetic basis metals (ISO 2360 : 1982)

Part B8 : 1988 (ISO 3543 : 1981)	Metallic and non-metallic coatings – Measurement of thickness – Beta backscatter method
Part B9 : 1988 (ISO 3497 : 1976)	Metallic coatings – Measurement of coating thickness – X-ray spectrometric methods
Group C Corrosion test	
Part C1 : 1988 (ISO 3768 : 1976)	Metallic coatings – Neutral salt spray test (NSS test)
Part C2 : 1988 (ISO 3769 : 1976)	Metallic coatings – Acetic acid salt spray test (ASS test)
Part C3 : 1988 (ISO 3770 : 1976)	Metallic coatings – Copper-accelerated acetic acid salt spray test (CASS test)
Part C4 : 1988 (ISO 4541 : 1978)	Metallic and other non-organic coatings - Corrodokote corrosion test (CORR test)
Part C5 : 1988 (ISO 4540 : 1980)	Metallic coatings - Coatings cathodic to the substrate - Rating of electroplated test specimens subjected to corrosion tests
Part C6 : 1988 (ISO 1462 : 1973)	Metallic coatings - Coatings other than those anodic to the basis metal - Accelerated corrosion tests - Method for the evaluation of the results
Part C7 : 1989 (ISO 4536 : 1985 and ISO 483 : 1988)	Saline droplets corrosion test (SD test)
Part C8 : 1988 (ISO 4539 : 1980)	Electrodeposited chromium coatings - Electrolytic corrosion test (EC test)
Part C9 : 1988 (ISO 4538 : 1978)	Metallic coatings - Thioacetamide corrosion test (TAA test)
Part C10 : 1988 (ISO 6988 : 1985)	Metallic and other non-organic coatings - Sulphur dioxide test with general condensation of moisture
Part C11 : 1988 (ISO 4542 : 1981)	Metallic and other non-organic coatings – General rules for stationary outdoor exposure corrosion tests
Part C12 : 1988 (ISO 4543 : 1981)	Metallic and other non-organic coatings - General rules for corrosion tests applicable for storage conditions
Group D Adhesion test	
Part D1 : 1988 (ISO 2819 : 1980)	Metallic coatings on metallic substrates - Electrodeposited and chemically deposited coatings Review of methods available for testing adhesion
Group E Microhardness test	
Part E1 : 1988 (ISO 4516 : 1980)	Metallic and related coatings – Vickers and Knoop microhardness tests

Group F Measurement of ductility

Part F1 : 1988 Metallic coatings - Review of methods of measurement of ductility
(ISO 8401 : 1986)

SS 329 : 1988 Plain semi-sweet biscuits (non-creamed)
16pp S\$15.00

Covers a wide range of plain semi-sweet and non-creamed biscuits in Singapore. Covers both requirements and methods of test.

SS 330 : 1988 Filled milk sweetener
Amendment No. 1, March 1990
33pp S\$34.00

Gives requirements and methods of test for filled milk sweetener.

SS 331 : 1997 Plastic refuse sacks
15pp S\$15.00

Specifies the requirements for plastic refuse sacks which are intended for normal usage and does not cover refuse sacks intended for hot refuse and unwrapped sharp objects. (Archived, February 2004)

SS 332 : 2007 Fire doors
106pp S\$93.00

Specifies requirements for the construction and installation of fire-resistant doorsets used to protect openings in walls and partitions which are required to resist the passage of fire. Includes the test standards for various hardware. Excludes back check on door closers. Aligns the requirements on the vision panel location on fire doors with the latest Fire Code and Code of Barrier Free Accessibility (CBFA) to allow the wheelchair users to avoid being accidentally struck by the door swing.

SS 333 : 1996 Fire dampers
20pp S\$21.00

Specifies requirements for the materials, design, manufacture, performance, testing and marking of fire dampers which may be of rectangular or circular face, of single or multi-blade construction, and having hinged, pivoted or curtain type action.

SS 334 : 1998 Timber pallets
Amendment No. 1, December 1999
39pp S\$34.00

Specifies the requirements and methods of test for general purpose pallets. Includes terms and definitions relating to pallets of different types and to the component parts of pallets and recommendations for the handling of pallets.

SS 335 : 1988 Guide to the preparation of laboratory quality manual
(Withdrawn)

SS 336 : - Hermetically sealed metal cans for food and drinks

Part 1 : 1989 Definitions and determination methods for capacities and dimensions
Amendment No. 1, September 1997
22pp S\$21.00

Defines terms and specifies methods for the determination of nominal dimensions and capacity and for the designation of hermetically sealed metal cans, produced from tinplate, aluminium and tin-free steel, for food and drinks. (Confirmed 1997) (Archived, January 2004)

Part 2 : 1990 Carbonated and non-carbonated drinks

Amendment No. 1, November 1998

9pp S\$15.00

Specifies the range of filling volumes with related diameters of hermetically sealed metal cans for carbonated and non-carbonated drinks and the conditions of use. (Archived, January 2004)

Part 3 : 1991 Food

Amendment No. 1, November 1998

21pp S\$21.00

Specifies a recommended range of gross lidded capacities and related cross-sections of food cans for general purpose food, meat and meat-products, edible oil, milk, fish and fish products. (Archived, January 2004)

SS 337 : 2001 Safety of information technology equipment
(IEC 60950 : 1999-04)
(Withdrawn, June 2007. Refer directly to IEC 60950-1 : 2005)

SS 338 : 1989 *Limits and methods of measurement of electromagnetic compatibility characteristics of information technology equipment
(IEC CISPR 22 : 1985)
(Withdrawn, replaced by SS IEC CISPR 22 : 1993)

SS 339 : 1989 *Radio-frequency cables: General requirements and measuring methods
(IEC 60096-1 : 1986)
(Withdrawn, May 2005. Refer directly to IEC 60096-1)

SS 340 : 1999 Chilli sauce
34pp S\$34.00

Specifies chilli sauce, a condiment/marinade for edible purposes. Specifies four categories of chilli sauce, namely chilli sauce, sweet chilli sauce, garlic chilli sauce and ginger garlic chilli sauce.

SS 341 : 2001 Safety glazing materials for use in buildings (human impact considerations)
43pp S\$40.00

Sets out performance requirements and test method for safety glazing materials for use in buildings in areas where human impact is likely. The materials specified are glazing panels designed to promote safety and to reduce or minimize the likelihood of cutting and piercing injuries from human impact.

Includes clear, tinted and patterned safety glazing materials, and opaque glazing materials used as spandrel panels in locations subject to human impact.

Does not cover glazing materials such as sealants and beads, and added precautions that may be necessary to combat fire hazards.

SS 342 : 1989 Electroplated coatings of nickel plus chromium on plastic parts for decorative purposes
(ISO 4525 : 1985)
(Withdrawn, October 2007. Refer directly to the ISO standards)

SS 343 : - Lifting gear

Part 1 : 2001 Wire rope slings
28pp S\$27.00

Specifies the dimensions, constructions, working load limits, testing and marking of wire rope slings for general lifting purposes. Deals with slings with fibre or independent steel wire main core and having one, two, three or four legs of general engineering steel wire rope complying with the requirements of SS 297 : 1996 – 'Steel wire ropes for hoisting'. Such slings are not intended to withstand greater loads at smaller included angles than those specified in the standard.

Part 2 : 1989 Hooks
37pp S\$34.00

Covers six types of forged or drop forged trapezoidal section hooks of two forms, the point hooks and the "C" hooks. Each form of hook is specified with a screwed shank, or alternatively with any eye for use with chain or wire rope thimbles. The "C" hook in the wire rope thimbles is supplied with a link.

Part 3 : 1990 Shackles
25pp S\$27.00

Specifies the general characteristics, performance and critical dimensions necessary for interchangeability and compatibility with other components, of forged dee and bow shackles.

SS 344 : 1989 Guide to the selection and application of intruder alarm systems
41pp S\$40.00

Recommends the most appropriate type of equipment and method to be used for the three fundamental elements which are the detector, control unit and alarm.

SS 345 : 1990 Algae resistant emulsion paint for decorative purposes
Amendment No. 1, April 1999
15pp S\$15.00

Applies to ready-for-use, air-drying emulsion paint for both exterior and interior use on masonry surfaces and on suitably primed metal and wood surfaces. Covers the re-coating of previously painted surfaces which are in sound condition. Also covers the problem of disfigurements of painted walls on local buildings by algal infestation.

SS 346 : 1990 Anti-bandit glazing
(Withdrawn, February 2004. Refer directly to BS 5544 : 1978)

SS 347 : 1990 Timber doors
38pp S\$34.00

Applies to basic purpose doors. Covers common materials and construction. Decorative planted mouldings, inlay, bolection, etc are not specified. Does not apply to fire-resistant doors, hospital doors, special purpose doors and doors that are higher or wider than the maximum specified in the standard.

SS 348 : 1990 Anti-reflection coating on ophthalmic lenses of glass material
13pp S\$15.00

Addresses the visual, durability and optical properties of the interference film used as anti-reflection coating on ophthalmic lenses of glass materials. (Archived, February 2007)

SS 349 : 1997 Refined, deodorized and winterized sunflower seed oil
9pp S\$15.00

Applies to refined, deodorized and winterized sunflower seed oil for edible purposes.

SS 350 : 1990 Semolina
12pp S\$15.00

Covers the requirements and methods of test for semolina.

SS 351 : 1990 Self-raising flour
15pp S\$15.00

Covers the requirements and methods of test for self-raising flour.

SS 352 : 1990 Wholemeal flour
13pp S\$15.00

Covers the requirements and methods of test for wholemeal flour.

- SS 353 : 1991 Helical-scan video tape cassette system using 12.65 mm (0.5 in) magnetic tape on type VHS
(Withdrawn, October 2003. Refer directly to IEC 60774 series of standards)
- SS 354 : - Printed boards
- Part 1 : 1991 See SS IEC 60326-1 : 1984
- Part 2 : 1991 *Test methods
(IEC 60326-2 : 1990)
(Withdrawn, October 2003. Refer directly to relevant parts of IEC 60326)
- Part 3 : 1994 *Design and use of printed boards
(IEC 60326-3 : 1991)
(Withdrawn, October 2003. Refer directly to relevant parts of IEC 60326)
- Part 4 : 1993 See SS IEC 60326-4 : 1980
- Part 5 : 1993 See SS IEC 60326-5 : 1980
- Part 6 : 1993 See SS IEC 60326-6 : 1980
- Part 7 : 1993 *Single and double sided flexible printed boards without through connections
(IEC 60326-7 : 1981)
(Withdrawn, October 2003. Refer directly to relevant parts of IEC 60326)
- Part 8 : 1993 *Single and double sided flexible printed boards with through connections
(IEC 60326-8 : 1981)
(Withdrawn, October 2003. Refer directly to relevant parts of IEC 60326)
- Part 9 : 1995 *Flexible multilayer printed boards with through connections
(IEC 60326-9 : 1991)
(Withdrawn, October 2003. Refer directly to relevant parts of IEC 60326)
- Part 10 : 1995 See SS IEC 60326-10 : 1991
- Part 11 : 1996 *Flex-rigid multilayer printed boards with through connections
(IEC 60326-11 : 1991)
(Withdrawn, October 2003. Refer directly to relevant parts of IEC 60326)
- SS 355 : 1991 Disposable expanded polystyrene food containers**
26pp S\$27.00
- Specifies requirements for disposable expanded polystyrene food containers which are in direct contact with food. The maximum allowable service temperature should not exceed 100°C. The disposable items which are for one-time usage include take-away boxes, cups, bowls, plates and sauce-dishes. (Confirmed 1998) (Archived, February 2004)
- SS 356 : 1991 Disposable polystyrene cutlery**
24pp S\$21.00
- Specifies materials and performance requirements for disposable polystyrene cutlery intended for use in contact with food and drinks up to a maximum service temperature of 100°C. The disposable items which are for one-time usage include knives, forks, spoons and stirrers. (Confirmed 1998) (Archived, February 2004)
- SS 357 : - Cushioning foams**
- Part 1 : 1991 Polystyrene**
Amendment No. 1, March 1999
31pp S\$27.00
- Specifies expanded polystyrene foam used as package cushioning material. Does not cover polystyrene foam in chip or granular form. The foam consists of closed-cell, expanded polystyrene particles which are bonded tightly to each other. (Archived, February 2004)

SS 358 : -

Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V

Part 1 : 1996 General requirements

(IEC 60227-1 : 1993)
Amendment No. 1, July 1998
26pp S\$27.00

Applies to rigid and flexible cables with insulation, and sheath if any, based on polyvinyl chloride, of rated voltages U_o/U up to and including 450/750 V used in power installations of nominal voltage not exceeding 450/750 V a.c.

Part 2 : 2005 Test methods

(IEC 60227-2 : 2003)
Erratum No. 1, May 2006
19pp S\$21.00

Specifies methods of carrying out the tests as stated in other parts of SS 358.

Part 3 : 1996 Non-sheathed cables for fixed wiring

(IEC 60227-3 : 1993)
Amendment No. 1, July 1998
20pp S\$21.00

Details the particular specifications for polyvinyl chloride insulated single-core non-sheathed cables for fixed wiring of rated voltages up to and including 450/750 V. The 500 mm² and 600 mm² conductor sizes are included in the revised standard.

Part 4 : 1996 Sheathed cables for fixed wiring
(IEC 60227-4 : 1992)
(Withdrawn, November 2003. Refer directly to IEC 60227-4 : 1997-12 Ed 2.1)

Part 5 : 2005 Flexible cables (cords)

(IEC 60227-5 : 2003-07 Ed. 2.2)
Erratum No. 1, May 2006
29pp S\$27.00

Provides the particular specifications for polyvinyl chloride insulated flexible cables (cords) of rated voltages up to and including 300/500 V.

Part 6 : 1991 *Lift cables and cables for flexible connections
(Withdrawn)

Part 7 : 1997 Flexible cable screened and unscreened with two or more conductors.
(IEC 60227-7 : 1995)
(Withdrawn, November 2003. Refer directly to IEC 60227-7 : 2003-04 Ed 1.1)

SS 359 : 1996

Circuit breakers for overcurrent protection for household and similar installations
(IEC 60898 : 1995)
(Withdrawn, January 2004. Refer directly to IEC 60898)

SS 360 : 1992

***Performance and construction of electric circulating fans and regulators**

(IEC 60879 : 1986)
Amendment No. 1, February 1992
Amendment No. 2, February 1996
Amendment No. 3, November 1998
24pp GrY

Applies to fans for household and similar purposes and to fans for use in ships of electric motor directly driven fans and their associated regulators intended for use on single-phase a.c. and d.c. circuits not exceeding 250 V.

SS 361 : -

Security glazing

Part 1 : 1992 *Bullet-resistant glazing for interior use
(BS 5051 : Part 1 : 1988)
(Withdrawn, February 2004. Refer directly to BS EN 1063 : 2000)

SS 362 : -

Specification for EAN bar coding system

Part 1 : 2004 EAN – An unambiguous international product identification system

(ISO/IEC 15420 : 2000)
51pp S\$47.00

Specifies the requirements for the bar code symbology known as EAN/UPC. It specifies EAN/UPC symbology characteristics, data character encodation, symbol formats, dimensions, tolerances, test specification and a reference decoding algorithm. The EAN/UPC bar code symbols are exclusively reserved for encoding identification numbers.

The use of the symbology is restricted and subject to compliance with rules and registration procedures of the International Article Numbering Association (EAN), Uniform Code Council (UCC) and the Singapore Article Number Council (SANC). The major benefit for the users of the standard is to refer to uniquely defined identification codes in their trading transactions. This is particularly useful in open environment.

Part 2 : 1993 EAN code 128 and application identifier standard

(ISO/IEC 15417 : 1999 and ISO/IEC 15418 : 1999)
122pp S\$107.00

This standard defines the technical requirements for the bar code symbology known as Code 128. It specifies Code 128 symbology characteristics, data character encodation, dimensions, decoding algorithms and the application parameters which need to be defined by users. It specifies the symbology identifier prefix strings for Code 128 symbols.

SS 363 : 1993

Steel gratings for roads and drainage

17pp S\$21.00

Caters to the generally more corrosive environment that is prevalent in Singapore and includes requirements for protective coating. Enhances safety and ensures durability of the steel gratings. Also includes assurance tests to be carried out. (Archived, March 2004)

SS 364 : 1993

Fire safety signs

(Withdrawn, July 2005. Replaced by SS 508 and CP 19)

SS 365 : 1993

*Safety requirements for electric fans and regulators for household and similar purposes
(IEC 60342-1 : 1981)
(Withdrawn, replaced by SS 146 : Part 2 : 18)

SS 366 : 1994

Digital representation for communication of product data : IGES application subsets for AEC industry

23pp S\$21.00

Identifies the requirements to be met when the product definition data is delivered in the digital format of the Initial Graphics Exchange Specifications (IGES). Discrete subsets are identified by class according to the application for which the digital data was prepared.

SS 367 : 1994

UPVC lined steel pipes for potable water services

Amendment No. 1, September 1997
16pp S\$15.00

Applies to uPVC lined steel pipes for potable water services not exceeding 1.0 MPa working pressure to be used in conjunction with SS 368 : 1994.

SS 368 : 1994

Plastic coated malleable cast iron pipe fittings for potable water services

10pp S\$15.00

Applies to plastic coated malleable cast iron pipe fittings to be used for jointing of uPVC lined steel pipes conforming to SS 367 : 1994.

- SS 369 : 1994 Moulded thermoplastic refuse bins for domestic and industrial use**
16pp S\$15.00
- Specifies the requirements for refuse bins (with or without lids), manufactured from thermoplastic materials, suitable for use with normal household and industrial refuse (except hot ashes), up to a maximum capacity of 250 litres. (Archived, February 2004)
- SS 370 : 1994 Metal roofing**
21pp S\$21.00
- Specifies minimum performance requirements for unpainted, prepainted and organic film metal laminate products intended to be fabricated for use in the building in exterior applications such as roofing, wall claddings, soffits and awnings.
- SS 371 : 1994 *Uninterruptible power supplies
(IEC 60146-4 : 1986)
(Withdrawn, May 2005. Refer directly to IEC 62040-3)
- SS 372 : - Identification cards - Integrated circuit(s) cards with contacts**
- Part 1 : 2000 Physical characteristics**
(ISO/IEC 7816-1 : 1997)
12pp S\$15.00
- Specifies the physical characteristics of integrated circuit(s) cards with contacts. Applies to identification cards of the ID-1 card type which may include embossing and/or a magnetic stripe as specified in ISO/IEC 7811-1 to ISO/IEC 7811-6. Also applies to cards which have a physical interface with electrical contacts. Does not define the nature, number and position of the integrated circuits in the cards.
- See also SS ISO 7816-2 : 1988.
- Part 3 : 2000 Electronic signals and transmission protocols**
(ISO/IEC 7816-3 : 1997)
36pp S\$34.00
- Specifies the power and signal structures, and information exchange between an integrated circuit(s) card and an interface device such as a terminal. Covers signal rates, voltage levels, current values, parity convention, operating procedure, transmission mechanisms and communication with the card.
- Does not cover information and instruction content, such as identification of issuers and users, services and limits, security features, journaling and instruction definitions.
- Part 4 : 1999 Interindustry commands for interchange**
49pp S\$47.00
- Describes the ISO/IEC 7816 : Part 4 commands used within the Singapore context. Covers Access Conditions, Secure Messaging, Secure Writing, Basic Inter-industry Commands, Transmission-oriented Inter-industry Commands and Administrative Commands.
- SS 373 : - Optics and optical instruments - Contact lenses**
- Part 1 : 1994 Hard corneal and scleral contact lenses**
16pp S\$15.00
- Specifies requirements for contact lenses as supplied by the manufacturer according to a prescription from a practitioner. Applies to hard corneal and scleral contact lenses including those manufactured of gas permeable materials. Does not apply to the delivery of soft contact lenses in a dry state.

Part 2 : 1994 Soft corneal and scleral contact lenses
12pp S\$15.00

Specifies requirements for hydrogel contact lenses as supplied by a manufacturer according to a prescription from a practitioner. Applies to hydrogel contact lenses delivered in the hydrated state.

Part 3 : 1994 Determination of back vertex power of contact lenses
11pp S\$15.00

Specifies test methods of back vertex power of hard and soft contact lenses in air. Applies to finished contact lenses.

Part 4 : 1994 Determination of diameter of contact lenses
12pp S\$15.00

Applies to instruments that are used for the determination of contact lens diameters. Specifies the fundamental requirements for the measurement of these dimensions.

Part 5 : 1994 Determination of thickness of rigid contact lenses
8pp S\$11.00

Describes a method for the determination of the thickness of contact lenses. Determines the fundamental requirements for the measurement of rigid contact lenses in air.

Part 6 : 1994 Determination of strain of contact lenses
8pp S\$11.00

Applies to instruments that are used for the determination of strains of contact lenses. Determines the fundamental requirements for rigid contact lenses.

Part 7 : 1994 Determination of inclusions and surface imperfections of rigid contact lenses
8pp S\$11.00

Applies to instruments that are used for the determination of inclusions and surface imperfections (engravings are not regarded as surface imperfections). Determines the fundamental requirements for the testing of rigid contact lenses.

Part 8 : 1994 Determination of curvature
21pp S\$21.00

Describes the methods of test for determining the curvature of contact lenses.

SS 374 : 1994 Preformed waterproofing membranes for concealed roof
Erratum No. 1, October 1995
30pp S\$27.00

Specifies performance requirements and evaluation methods for bituminous and non-bituminous preformed membrane for use as waterproofing material for concealed roofing system. Covers both fully bonded and loosely-laid preformed membranes. Does not cover the weathering effect in exposed roofing system.

SS 375 : - Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water

Part 1 : 2001 Specification
14pp S\$15.00

Specifies requirements for the suitability of non-metallic products, including water fittings and components, pipes and materials used in coating, protection, lining, jointing, sealing and lubrication, for use in contact with either hot or cold water intended for human consumption, with regard to their effect on the quality of the water.

Part 2 : 1 : 2001 Methods of test - Samples for testing
22pp S\$21.00

Describes the preparation of samples of all types of non-metallic products for testing their suitability for use in contact with water intended for human consumption.

Part 2 : 2 : 1 : 2001 Methods of test – Odour and flavour of water - General method of test
21pp S\$21.00

Describes a method designed to assess the ability of a product to impart a discernible odour and/or flavour to water intended for human consumption. The method is applicable to all types of non-metallic product used in contact with drinking water.

Not applicable for testing flexible hoses (with or without reinforcement) in their final form (i.e. before assembly) or flexible hoses (with or without reinforcement) intended for use in equipment used for food and drink preparation.

Part 2 : 2 : 2 : 2001 Methods of test – Odour and flavour of water – Method of testing odours and flavours imparted to water by hoses and composite pipes and tubes
12pp S\$15.00

Describes a method designed to assess the ability of flexible hoses (including reinforcements) and composite pipes/tubes to impart a discernible odour or flavour to water intended for human consumption.

Part 2 : 2 : 3 : 2001 Methods of test – Odour and flavour of water – Method of testing odours and flavours imparted to water by hoses for conveying water for food and drink preparation
11pp S\$15.00

Describes a method designed to assess the ability of flexible hoses (including reinforcements) to impart a discernible odour or flavour to water intended for use in the preparation of food and drinks.

Applicable only to the testing of hoses intended for installation in equipment used for food and drink preparation.

Part 2 : 3 : 2001 Methods of test – Appearance of water
11pp S\$15.00

Describes a method designed to assess the ability of a product to impart any noticeable colour or turbidity to water intended for human consumption. Applicable to all types of non-metallic product used in contact with water intended for human consumption.

Part 2 : 4 : 2001 Methods of test - Growth of aquatic microorganisms test
17pp S\$21.00

Specifies a method for assessing the ability of a product to promote the multiplication of aerobic aquatic microorganisms in water intended for human consumption. Applicable to all types of non-metallic product used in contact with water intended for human consumption.

Part 2 : 5 : 2001 Methods of test - The extraction of substances that may be of concern to public health
17pp S\$21.00

Specifies a screening procedure (simple cytotoxicity test) using a mammalian cell and a leachate from a product. The results of this procedure will assist in the toxicological assessment of the product for use in contact with water intended for human consumption.

Part 2 : 6 : 2001 Methods of test - The extraction of metals
14pp S\$15.00

Specifies the test procedure for assessing the leachability of metals from non-metallic products when used in contact with water intended for human consumption.

Part 3 : 2001 High temperature tests
9pp S\$15.00

Describes methods designed to assess the ability of a non-metallic product to affect hot and boiling water intended for human consumption by imparting a discernible odour or flavour, or any noticeable colour or turbidity. Applicable in assessing the leachability in hot or boiling water of metals from non-metallic products and the extraction from such products of substances that may be concern to public health. Not applicable to the test for growth of aquatic microorganisms. Excludes products used exclusively in industrial or steam services.

SS 376 : 1995 Construction information indexing
119pp S\$50.00

Defines a construction indexing system which facilitates storage and retrieval of information generated or utilised in construction activities.

SS 377 : - D.C. supplied electronic ballasts for tubular fluorescent lamps

Part 1 : 1995 *General and safety requirements
(Withdrawn)

SS 378 : 1996 Low capacity WC flushing cisterns up to 4.5L maximum
33pp S\$34.00

Specifies requirements for 4.5L maximum single flush, exposed and concealed WC flushing cisterns with a side inlet or bottom inlet supplied with a float operated valve, with either a siphon type or valve type flushing device, for high level, low level and close coupled applications together with the necessary flush pipes.

SS 379 : 1996 Vitreous china WC pans for use with low capacity WC flushing cisterns up to 4.5L maximum
Amendment No. 1, January 2004
21pp S\$21.00

Lays down the basic dimensions and functional requirements together with test methods for pedestal, squatting and wall hung washdown WC pans (with integral trap) made from vitreous china for use with low capacity WC flushing cisterns up to 4.5L maximum.

SS 380 :- A.C. supplied electronic ballasts for tubular fluorescent lamps

Part 1 : 1996 General and safety requirements
(Withdrawn, replaced by SS 490-2 : 3)

Part 2 : 1996 Performance requirements
(IEC 60929 : 1990)
(Withdrawn, October 2004. Refer directly to IEC 60929)

SS 381 : 1996 Materials and performance tests for aluminium curtain walls
24pp S\$21.00

Stipulates the technical requirements for the essential materials and evaluation methods for checking the structural adequacy of aluminium curtain walls and their ability to resist water penetration and air leakage. Specifies materials and performance standards for aluminium curtain walls. Includes evaluation of air permeability, water tightness and wind resistance characteristics of the curtain wall system. (Confirmed, November 2007)

SS 382 : -	<p>Shipbuilding and marine structures - Filling connection for drinking water tanks (Withdrawn, September 2001)</p> <p>Part 1 : 1996 *General requirements (ISO 5620-1 : 1992)</p> <p>Part 2 : 1996 *Components (ISO 5620-2 : 1992)</p>
SS 383 : 1996	<p>*Shipbuilding - Welded bulkhead pieces with flanges for steel pipework - PN 6, PN 10 and PN 16 (ISO 5625 : 1978) (Withdrawn, September 2001)</p>
SS 384 : 1996	<p>*Shipbuilding - Strum boxes (ISO 6454 : 1984) (Withdrawn, September 2001)</p>
SS 385 : 1996	<p>Eye plates for ships (Withdrawn, September 2001)</p>
SS 386 : 1996	<p>*Shipbuilding and marine structures - Toughened safety glass panes for rectangular windows and side scuttles - Punch method of non-destructive strength testing (ISO 614 : 1989) (Withdrawn, September 2001)</p>
SS 387 : 1996	<p>*Shipbuilding and marine structures - Toughened safety glass panes for side scuttles (ISO 1095 : 1989) (Withdrawn, September 2001)</p>
SS 388 : 1996	<p>*Shipbuilding - Ship's side scuttles (ISO 1751 : 1993) (Withdrawn, September 2001)</p>
SS 389 : 1996	<p>*Shipbuilding and marine structures - Toughened safety glass panes for rectangular windows (ISO 3254 : 1989) (Withdrawn, September 2001)</p>
SS 390 : 1996	<p>*Shipbuilding and marine structures - Heated glass panes for ship's rectangular windows (ISO 3434 : 1992) (Withdrawn, September 2001)</p>
SS 391 : 1996	<p>*Shipbuilding and marine structures - Gaskets for rectangular windows side scuttles (ISO 3902 : 1990) (Withdrawn, September 2001)</p>
SS 392 : 1996	<p>*Shipbuilding - Ship's ordinary rectangular windows (ISO 3903 : 1993) (Withdrawn, September 2001)</p>
SS 393 : 1996	<p>*Shipbuilding and marine structures - Clear-view screens (ISO 3904 : 1990) (Withdrawn, September 2001)</p>
SS 394 : 1996	<p>*Shipbuilding and marine structures - Windows and side scuttles for fire-resistant constructions - Specification - "B" class divisions (ISO 5797-1 : 1989) (Withdrawn, September 2001)</p>
SS 395 : 1996	<p>*Shipbuilding and marine structures - Windows and side scuttles - Vocabulary (ISO 6345 : 1990) (Withdrawn, September 2001)</p>

SS 396 : 1997**Vitreous china WC pans for use with 6 L flush valves**

21pp S\$21.00

Lays out the basic dimensions and functional requirements together with test methods for pedestal, squatting and wall hung washdown water closet (WC) pans (with integral trap) made from vitreous china for use with 6-litre flush valves.

Based primarily on SS 379 : 1996 'Vitreous china WC pans for use with low capacity WC flushing cisterns up to 4.5 L maximum' with modifications such as the newspaper flushing test in lieu of soft paper test, to achieve a more stringent functional requirement of the WC pans as the WC pans are for use in public toilets.

SS 397 : -**Methods of testing cement****Part 1 : 1997 Determination of strength**

33pp S\$34.00

Specifies the determination of strength of cement using the following methods: Section One - Mortar Prism Method and Section Two - Mortar Cube Method.

Section One specifies the method for determining the compressive and flexural strengths of cement mortar, and Section Two specifies the method for determination of compressive strengths of ordinary Portland cement using the mortar cube method which will be withdrawn after a year.

Part 2 : 1997 Chemical analysis of cement

37pp S\$34.00

Describes the procedures for the chemical analysis of cement. Applies to cements, and their constituent materials such as clinker and blastfurnace slag.

Part 3 : 1997 Determination of setting time and soundness

13pp S\$15.00

Specifies the methods for determination of setting time and soundness of Portland cements.

Part 6 : 1997 Determination of fineness

Amendment No. 1, August 1999

17pp S\$21.00

Describes the sieving method which serves only to demonstrate the presence of coarse cement particles and is used primarily for checking and controlling the production process.

Also describes the air permeability method (Blaine) where the specific surface (mass-related surface) is measured by comparison with a reference cement sample. Serves primarily to check the consistency of the grinding process of one and the same plant. This method only allows a limited assessment to be made of the properties of the cement in use.

Part 7 : 1997 Method of taking and preparing samples of cement

19pp S\$21.00

Specifies the equipment to be used, the methods to be followed and the provisions to be complied with for taking samples of cement representative of given lots for testing to assess the quality of products prior to, during or after delivery.

Applies when samples of cement are required to verify the compliance of either:

- (a) current production of a cement at any time with a standard (for example to meet the needs of the manufacturer's auto-control, or again in response to the requirements of a certification procedure); or
- (b) a delivery or a lot with a standard, the provisions of a contract or the specification in an order.

Also applies to the taking of samples of all types of cements, whether they are: contained in silos; contained in bags, canisters, drums, or any other packages; transported in bulk in road vehicles, railway wagons, ships, etc.

Part 21 : 1997 Determination of the chloride, carbon dioxide and alkali content of cement

Amendment No. 1, August 1999
22pp S\$21.00

Specifies the test method for determining the chloride, carbon dioxide and alkali contents of cement. Applies to cements and also to their constituent materials, such as clinker and blastfurnace slag.

SS 398 : - Low-voltage switchgear and controlgear

Part 1 : 1999 General rules
(IEC 60947-1 : 1999-02)
(Withdrawn, March 2004. Refer directly to IEC 60947-1 : 2001)

Part 2 : 1999 Circuit breakers
(IEC 60947-2 : 1995)
(Withdrawn, March 2004. Refer directly to IEC 60947-2 : 2003)

Part 3 : 1999 Switches, disconnectors, switch-disconnectors and fuse-combination units
(IEC 60947-3 : 1999)
(Withdrawn, March 2004. Refer directly to IEC 60947-3 : 2001)

Part 4 : 1 : 1997 Contactors and motor-starters, electromechanical contactors and motor-starters
(IEC 60947-4-1 : 1990)
(Withdrawn, March 2004. Refer directly to IEC 60947-4-1 : 2002)

SS 399 : 1997 Litter bins
14pp S\$15.00

Specifies the requirements for litter bins, i.e. post/wall mounted or free-standing, manufactured from either thermoplastic materials or thermosetting plastic materials, with or without glass-fibre reinforcement, and, if applicable, having an aluminium liner and stainless steel ash-tray. (Archived, February 2004)

SS 400 : 1997 LP gas and non-refillable gas canisters for portable gas cookers
Erratum No. 1, April 1998
16pp S\$15.00

Specifies canisters which contain liquefied petroleum gas for assembly into portable gas cookers. (Archived, July 2004)

SS 401 : 1997 Portable gas cookers - General specifications and test methods
43pp S\$40.00

Specifies portable gas cookers equipped with a canister filled with liquefied petroleum gas. Excludes:

- (a) portable cookers that use a.c. or external d.c. electrical power supply for its ignition unit;
- (b) portable cookers that use town gas or LPG supplied from a cylinder as fuel source;
- (c) portable cookers that use non-refillable LPG canisters which are mounted in an upright manner during operation; and
- (d) portable cookers that use non-refillable LPG canisters that are not equipped with a canister valve.

SS 402 :-**Industrial safety belts and harnesses****Part 1 : 1997 General requirements**

Amendment No. 1, March 2005

21pp S\$21.00

Describes the essential characteristics of each type of belt and harness. Gives guidance for the maintenance, inspection and storage of safety belts and harnesses. Also includes recommendations for fixtures for the attachment of belts.

Part 2 : 1997 Permanent anchors

23pp S\$21.00

Specifies the requirements for eyebolts and ancillary fittings for use as permanent, fixed anchorages for the direct attachment of safety lanyards of industrial safety belts and harnesses. Includes recommendations on the fixture of such anchorages to existing buildings and new construction together with methods of test and test requirements for assessing the suitability of anchorages.

SS 403 : 1997**13A fused connection units switched and unswitched**

38pp S\$34.00

Specifies requirements for 13A fused fixed connection units for household, commercial and light industrial purposes, with particular reference to safety in normal use. The connection units are suitable for the connection of appliances, in a.c. circuits only, operating at voltages not exceeding 250 V r.m.s. at 50 Hz. Also specifies requirements for connection units incorporating a fuselink complying with SS 167.

SS 404 :-**Power transformers****Part 1 : 1997 General**

(IEC 60076-1 : 1993)

(Withdrawn, October 2008)

Part 2 : 1997 Temperature rise

(IEC 60076-2 : 1993)

(Withdrawn, October 2008)

Part 3 : 2001 Insulation levels, dielectric tests and external clearances in air

(IEC 60076-3 : 2000)

(Withdrawn, October 2008)

Part 3 : 1 : 1998 *External clearances in air

(IEC 60076-3-1 : 1987)

(Withdrawn, September 2001. Replaced by SS 404 : Part 3 : 2001)

Part 5 : 2001 Ability to withstand short circuit

(IEC 60076-5 : 2000)

25pp S\$27.00

Specifies the design and construction of transformers to withstand the thermal and dynamic effects of external short circuits under specified conditions. Includes tests to demonstrate the ability to withstand short circuit. Applies to transformers as defined in the scope of SS 404 : Part 1.

Part 8 : 2000 Application guide

(IEC 60076-8 : 1997)

88pp S\$73.00

Provides information to users about certain fundamental service characteristics of different transformer connections and magnetic circuit designs; system fault currents; parallel operation of transformers, calculation of voltage drop or rise under load; selection of rated quantities and tapping quantities; application of transformers of conventional design to converter loading and measuring techniques.

NOTE – For the parts that have been withdrawn, users can refer directly to the relevant parts of IEC 60076.

SS 405 : 1998	<p>*Single-use rubber examination gloves (ISO 11193 : 1994) Amendment No. 1, February 1998 7pp GrY</p> <p>Specifies the requirements for packaged sterile, or bulked non-sterile, rubber gloves intended for use in medical examinations and diagnostics or therapeutic procedures to protect the patient and the user from cross-contamination. Also covers rubber gloves intended for use in handling contaminated medical materials. Does not apply to gloves made from plastic film either of a dipped or welded construction or as a substitute for gloves used in surgical procedures. (Archived, February 2007)</p>
SS 406 : 1998	<p>*Single-use sterile surgical rubber gloves (ISO 10282 : 1994) Amendment No. 1, February 1998 8pp GrY</p> <p>Specifies the requirements for packaged sterile gloves intended for use in surgical procedures to protect the patient and the user from cross-contamination. Applies to single-use gloves that are worn once and then discarded. (Archived, February 2007)</p>
SS 407 : 1998	<p>*Shipbuilding - Deck machinery - General requirements (ISO 7825 : 1985) (Withdrawn, September 2001)</p>
SS 408 : 1998	<p>*Shipbuilding - Cargo winches (ISO 3078 : 1987) (Withdrawn, September 2001)</p>
SS 409 : 1998	<p>*Shipbuilding - Mooring winches (ISO 3730 : 1988) (Withdrawn, September 2001)</p>
SS 410 : 1998	<p>*Shipbuilding - Sea-going vessels - Windlasses and anchor capstans (ISO 4568 : 1986) (Withdrawn, September 2001)</p>
SS 411 : 1998	<p>*Shipbuilding and marine structures - Winches for lifeboats (ISO 6067 : 1985) (Withdrawn, September 2001)</p>
SS 412 : 1998	<p>*Shipbuilding - Trawl winches (ISO 6115 : 1988) (Withdrawn, September 2001)</p>
SS 413 : 1998	<p>*Shipbuilding - Topping winches (ISO 6555 : 1988) (Withdrawn, September 2001)</p>
SS 414 : 1998	<p>*Shipbuilding and marine structures - Deck machinery - Accommodation ladder winches (ISO 7364 : 1983) (Withdrawn, September 2001)</p>
SS 415 : 1998	<p>*Shipbuilding and marine structures - Deck machinery - Towing winches for deep sea use (ISO 7365 : 1983) (Withdrawn, September 2001)</p>
SS 416 : 1998	<p>*Shipbuilding - Cable stoppers (ISO 6325 : 1987) (Withdrawn, September 2001)</p>
SS 417 : 1998	<p>*Shipbuilding - Deck machinery - Warping end profiles (ISO 6482 : 1980) (Withdrawn, September 2001)</p>

SS 418 : 1998	*Shipbuilding - Pilot ladders (ISO 799 : 1986) (Withdrawn, September 2001)
SS 419 : 1998	Vertical steel ladder for ships (Withdrawn, September 2001)
SS 420 : 1998	*Shipbuilding and marine structures - Rungs for dog-step ladders (ISO 9519 : 1990) (Withdrawn, September 2001)
SS 421 : 1998	*Shipbuilding - Guardrails for cargo ships (ISO 5480 : 1979) (Withdrawn, September 2001)
SS 422 : 1998	Manholes for ships (Withdrawn, September 2001)
SS 423 : 1998	*Shipbuilding - Welded steel bollards (ISO 3913 : 1977) (Withdrawn, September 2001)
SS 424 : 1998	*Ship's bridge layout and associated equipment - Requirements and guidelines (ISO 8468 : 1990) (Withdrawn, September 2001)
SS 425 : 1998	Sideguards for motor vehicles with maximum laden weight of more than 3500 kg (including semi-trailers, trailers and buses) (Withdrawn, October 2004. Refer directly to European Communities Directives No. 89/297/EEC)
SS 426 : 1998	Rear underrun protection devices for motor vehicles with maximum laden weight of more than 3 500 kg (including semi-trailers, trailers and buses) (Withdrawn, October 2004. Refer directly to European Communities Directives No. 79/490/EEC)
SS 427 : 1998	Steel bars for reinforcement of concrete - Bend and rebend tests (ISO 10065 : 1990) 9pp S\$15.00 Specifies procedures for bend and rebend testing of reinforcing steel bars. The purpose of the rebend test is to determine the ageing properties of bars exposed to plastic deformation.
SS 428 : 1998	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment (IEC CISPR 15 : 1996) (Withdrawn, January 2005. Refer directly to IEC CISPR 15 : 2002)
SS 429 : 1998	*Shipbuilding - Indication of details on the general arrangement plans of ships (ISO 1964 : 1987) (Withdrawn, September 2001)
SS 430 : 1998	*Shipbuilding - Colours of indicator lights (ISO 2412 : 1982) (Withdrawn, September 2001)
SS 431 : -	Shipbuilding - Co-ordination of dimensions in ships' accommodation (Withdrawn, September 2001) *Part 1 : 1998 Principles of dimensional co-ordination (ISO 3827-1 : 1977) *Part 2 : 1998 Glossary of terms (ISO 3827-2 : 1977) *Part 3 : 1998 Co-ordinating sizes for components and assemblies (ISO 3827-3 : 1977)

	*Part 4 : 1998 (ISO 3827-4 : 1977)	Controlling dimensions
	*Part 5 : 1998 (ISO 3827-5 : 1979)	Co-ordinating sizes for key components
SS 432 : 1998	*Shipbuilding and marine structures - Deck machinery - Vocabulary (ISO 3828 : 1984) (Withdrawn, September 2001)	
SS 433 : 1998	*Shipbuilding and marine structures - Numbering equipment and structural elements in ships (ISO 5572 : 1987) (Withdrawn, September 2001)	
SS 434 : 1998	*Shipbuilding - Bilge mud boxes for machinery spaces - General design characteristics (ISO 5621 : 1984) (Withdrawn, September 2001)	
SS 435 : 1998	*Shipbuilding and marine structures - Eye and fork assemblies under tension load - Main dimensions (ISO 6043 : 1985) (Withdrawn, September 2001)	
SS 436 : 1998	*Shipbuilding - Bulbous bow and side thruster symbols (ISO 6050 : 1987) (Withdrawn, September 2001)	
SS 437 : 1998	*Shipbuilding - Shiplines - Identification of geometric data (ISO 7460 : 1983) (Withdrawn, September 2001)	
SS 438 : 1998	*Shipbuilding - Shiplines - Numerical representation of elements of the hull geometry (ISO 7461 : 1984) (Withdrawn, September 2001)	
SS 439 : 1998	*Shipbuilding - Shiplines - Formats and data organisation (ISO 7838 : 1984) (Withdrawn, September 2001)	
SS 440 : -	Shipbuilding - Topology of ship hull structure elements (Withdrawn, September 2001)	
	*Part 1 : 1998 (ISO 9203-1 : 1989)	Location of elements
	*Part 2 : 1998 (ISO 9203-2 : 1989)	Description of elements
	*Part 3 : 1998 (ISO 9203-3 : 1989)	Relations of elements
SS 441 : 1998	* Packaging material standards for ESD sensitive items (ANSI/EIA-541-1988) 44pp GrY	
	Deals with materials and items used in packaging of electronic parts for shipment. Includes test methods. (Archived, February 2004)	

SS 442 : -**Paper sacks**

Covers the description and dimensional designation of empty paper sacks. Deals with quantitative performance requirements besides providing a checklist for the characteristics of paper sacks to be specified for procurement. Intended for single- and multi-ply sacks made from paper; does not refer to bags for the retail trade.

- Part 1 : 1998** ***Packaging - Method of specification for sacks** (Archived, February 2004)
(ISO 8351-1 : 1994)
4pp GrY
- Part 2 : 1998** ***Packaging - Vocabulary and types** (Archived, February 2004)
(ISO 6590-1 : 1983)
23pp GrY
- Part 3 : 1998** ***Packaging - Dimensional tolerances for general purpose sacks**
(Archived, February 2004)
(ISO 8367-1 : 1993)
2pp GrY
- Part 4 : 1998** ***Packaging - Description and method of measurement** (Archived, February 2004)
(ISO 6591-1 : 1984)
5pp GrY
- Part 5 : 1998** ***Packaging - Method of sampling empty sacks for testing**
(Archived, February 2004)
(ISO 7023 : 1983)
2pp GrY
- Part 6 : 1998** ***Packaging - Conditioning for testing** (Archived, February 2004)
(ISO 6599-1 : 1983)
2pp GrY
- Part 7 : 1998** ***Packaging - Drop test** (Archived, February 2004)
(ISO 7965-1 : 1984)
8pp GrY

SS 443 : -

Power cables with extruded insulation and their accessories for rated voltages from 1 kV ($U_m = 1.2$ kV) up to 30 kV ($U_m = 36$ kV)

- Part 1 : 1998** Cables for rated voltages of 1 kV ($U_m = 1.2$ kV) and 3 kV ($U_m = 3.6$ kV)
(IEC 60502-1 : 1997)
(Withdrawn, November 2003. Refer directly to IEC 60502-1 : 1998)

SS 444 : 1998**Hazard analysis and critical control point (HACCP) system and guidelines for its application**

15pp S\$15.00

Sets out the principles of the Hazard Analysis and Critical Control (HACCP) system and provides general guidance for the application of the system adopted by Codex.

SS 445 : 1998**Alarm systems – Alarm systems for road vehicles – Passenger cars**

(IEC 60839-10-1 : 1995)
Erratum No. 1, May 1999
30pp S\$27.00

Specifies requirements and test methods for vehicle security alarm systems (VSAS) intended for installation within vehicles used for the carriage of passengers and having not more than eight seats in addition to the driver's seat.

Aims to ensure a high standard of safety, performance and reliability of the VSAS and the reduction of false alarms.

Covers VSAS designed to detect and signal the unauthorised opening of any of the vehicle doors, boot/luggage compartment, bonnet/engine hood and, in addition, to immobilise the vehicle when set. Also covers VSAS intended both for installation as original equipment and for installation after delivery of the vehicle.

- SS 446 : 1998** **Flowmeter regulators used on cylinders for welding, cutting and allied processes – Classification and specifications**
(ISO 7292 : 1997)
10pp S\$15.00
- Specifies the characteristics of flowmeter regulators, equipped with flow control and measuring device for gases in the gaseous phase used on cylinders containing gas or mixtures of liquefied or compressed gas. Typical processes using this equipment are: tungsten inert gas welding (TIG), metal-arc inert gas welding (MIG), metal-arc active gas welding (MAG), plasma arc welding, tubular cored wire welding and plasma cutting. (Archived, March 2004)
- SS 447 : 1998** **Gas cylinders – Terminology**
(ISO 10286 : 1996)
24pp S\$21.00
- Establishes the terminology used in the field of gas cylinders. Also gives definitions relating to pressures and gases. (Archived, March 2004)
- SS 448 : -** **Performance of draw-off taps with metal or plastic bodies for water services**
- Specifies the dimensional, water tightness, pressure resistance, hydraulic, mechanical strength and mechanical endurance characteristics of nominal size 1/2 and 3/4 single and combination taps.
- Part 1 : 1998** **Dimensional and design characteristics** (Archived, October 2004)
22pp S\$21.00
- Part 2 : 1998** **Water tightness and pressure resistance characteristics**
(Archived, October 2004)
19pp S\$21.00
- Part 3 : 1998** **Hydraulic characteristics**
19pp S\$21.00
- Part 4 : 1998** **Mechanical and endurance characteristics** (Archived, October 2004)
21pp S\$21.00
- Part 5 : 1998** **Physio-chemical characteristics : Materials, coatings** (Archived, October 2004)
15pp S\$15.00
- SS 449 : 1998** *Shipbuilding – Specification for accommodation ladders
(ISO 5488 : 1979)
(Withdrawn, September 2001)
- SS 450 : 1998** *Shipbuilding – Specification for aluminium shore gangways for seagoing vessels
(ISO 7061 : 1993)
(Withdrawn, September 2001)
- SS 451 : 1998** *Shipbuilding – Specification for embarkation ladders
(ISO 5489 : 1986)
(Withdrawn, September 2001)
- SS 452 : 1998** *Shipbuilding – Ship screw propellers – List of equivalent terms
(ISO 3715 : 1978)
(Withdrawn, September 2001)

- SS 453 : - Shipbuilding – Ship screw propellers – Manufacturing tolerances
(Withdrawn, September 2001)
- *Part 1 : 1998 Propellers of diameter greater than 2.50 m
(ISO 484-1 : 1981)
- *Part 2 : 1998 Propellers of diameter between 0.80 m and 2.50 m
(ISO 484-2 : 1981)
- SS 454: 1998 *Ships and marine technology – Specification for magnetic compasses, binnacles and azimuth reading devices – Class A
(ISO 449 : 1997)
(Withdrawn, September 2001)
- SS 455: 1998 Disposable microwavable plastic containers for food**
12pp S\$15.00
- Specifies the minimum requirements and labelling practices for disposable microwavable plastic containers used for food products. (Archived, February 2004)
- SS 456 : 1999 Metallic materials – Tensile testing at ambient temperature**
(ISO 6892 : 1997)
49pp S\$47.00
- Specifies the method for tensile testing of metallic materials and defines the mechanical properties which can be determined at ambient temperature.
- SS 457 : 2007 Playground equipment for public use**
Erratum No. 1, March 2008
79pp S\$67.00
- Offers guidance on design, installation and maintenance of public use play equipment. Covers the foreseeable hazards of playground equipment. Aims at minimising accidents in the normal, intended use of playground equipment.
- SS 458 : 1999 Information technology equipment – Immunity characteristics – Limits and methods of measurement
(IEC CISPR 24 : 1997)
(Withdrawn, March 2004. Refer directly to IEC CISPR 24 : 1997)
- SS 459 : 1999 Guidelines for residual solvents in food packaging materials**
13pp S\$15.00
- Provides general guidelines for the monitoring of residual solvents in plastic films and laminates used for food packaging purposes. (Archived, February 2004)
- SS 460 : 1999 *Pictorial marking for handling of goods**
(ISO 780 : 1985)
7pp GrY
- Specifies a set of symbols, conventionally used for marking of transport packages to convey handling instructions. Applies to packages containing any kind of goods, but does not include instructions specific to the handling of dangerous goods. (Archived, February 2004)
- SS 461 : - Information technology – Coding of moving pictures and associated audio for digital storage media at up to about 1.5 Mbit/s**
- *Part 1 : 1999 Systems**
(ISO/IEC 11172-1 : 1993)
53pp GrY
- Specifies the system layer of the coding and is developed to support the combination of video and audio coding methods defined in Parts 2 and 3. The system layer supports five basic functions:

- The synchronisation of multiple compressed streams on playback
- The interleaving of multiple compressed streams into a single stream
- The initialisation of buffering for playback start up
- Continuous buffer management, and
- Time identification

The multiplexed bit stream is constructed in 2 layers: the outermost is the system layer, and the innermost is the compression layer. The system layer provides the functions necessary for using one or more compressed data streams in a system. The video and audio parts of this specification define the compression coding layer for audio and video data. Coding of other types of data is not defined by the specifications, but is supported by the system layer provided that the other types of data adhere to the constraints defined in clause 2.4.

***Part 2 : 1999 Video**
(ISO/IEC 11172-2 : 1993)
112pp GrY

Specifies the coded representation of video for storage media and the decoding process. The representation supports normal speed forward playback, and special functions such as random access, fast forward playback, fast reverse playback, normal speed reverse playback, pause and still pictures. This part is compatible with standard 525- and 625-line television formats, and it provides flexibility for use with PC and workstation display.

Applies to digital storage media supporting a continuous transfer rate up to about 1.5 Mbit/s, such as Compact Disc, Digital Audio Tape, and magnetic hard disk. Nevertheless, it can be used more widely than this because of the generic approach taken. The storage media may be directly connected to the decoder, or via communication means such as buses, LANs, or telecommunication links. This part is intended for non-interlaced video formats having about 288 lines of 352 pels and picture rates around 24 Hz to 30 Hz.

***Part 3 : 1999 Audio**
(ISO/IEC 11172-3 : 1993)
150pp GrY

Specifies the coded representation of high quality audio for storage media and the method for decoding of high quality audio signals. The input of the encoder and the output of the decoder are compatible with existing PCM standards such as standard Compact Disc and Digital Audio Tape.

It is intended to apply to digital storage media providing a total continuous transfer rate of about 1.5 Mbit/s for both audio and video bitstreams, such as CD, DAT and magnetic hard disc. The storage media may either be connected directly to the encoder, or via other means such as communication lines and the ISO/IEC 11172 multiplexed stream defined in Part 1. This part is intended for sampling rates of 32 kHz, 44.1 kHz, and 48 kHz.

***Part 4 : 1999 Conformance testing**
(ISO/IEC 11172-4 : 1995)
42pp GrY

Specifies how tests can be designed to verify whether bitstreams and decoders meet requirements specified in Parts 1, 2 and 3. In this part, encoders are not addressed specifically. An encoder is entitled to be an ISO/IEC 11172 encoder if it generates bitstreams compliant with the syntactic and semantic bitstream requirements specified in Parts 1, 2 and 3.

Characteristics of coded bitstreams and decoders are defined for Parts 1, 2 and 3. The characteristics of a bitstream define the subset of the standard that is exploited in the bitstream. Decoder characteristics define the properties and capabilities of the applied decoding process. The capabilities of a decoder specify which coded bitstreams the decoder can decode and reconstruct, by defining the subset of the standard that may be exploited in decodable bitstreams. A bitstream can be decoded by a decoder if the characteristics of the coded bitstream are within the subset of the standard specified by the decoder capabilities.

Describes procedures for testing compliance of bitstreams and decoders to the requirements defined in Parts 1, 2 and 3. Given the set of characteristics claimed, the requirements that must be met are fully determined by Parts 1, 2 and 3. Summarises the requirements, cross

references them to characteristics, and defines how compliance with them can be tested. Gives guidelines on how to construct tests and determine their outcome. Some actual tests are defined only for audio.

SS 462 : -

Information technology – Generic coding of moving pictures and associated audio information

***Part 1 : 1999 Systems**
(ISO/IEC 13818-1 : 1996)
119pp GrY

Specifies the system layer of the coding. Developed principally to support the combination of video and audio coding methods defined in Parts 2 and 3. The system layer supports five basic functions:

- the synchronisation of multiple compressed streams on decoding,
- the interleaving of multiple compressed streams into a single stream,
- the initialisation of buffering for decoding start up,
- continuous buffer management, and
- time identification

***Part 2 : 1999 Video**
(ISO/IEC 13818-2 : 1996)
201pp GrY

Specifies the coded representation of picture information for digital storage media and digital video communication and specifies the decoding process. The representation supports constant bitrate transmission, variable bitrate transmission, random access, channel hopping, scalable decoding, bitstream editing, and specification such as fast forward playback, fast reverse playback, slow motion, pause and still pictures. Is forward compatible with SS 461 : Part 2 and upward or downward compatible with EDTV, HDTV, SDTV formats.

Applies primarily to digital storage media, video broadcast and communication. The storage media may be directly connected to the encoder, or via communications means such as buses, LANs, or telecommunication links.

***Part 3 : 1999 Audio**
(ISO/IEC 13818-3 : 1998)
115pp GrY

Specifies the extension of SS 461 : Part 3 to lower sampling frequencies, the coded representation of multichannel and multilingual high quality audio for broadcasting, transmission and storage media, and the method for decoding of multichannel and multilingual high quality audio signals. The input of the encoder and the output of the decoder are compatible with existing PSM standards.

***Part 6 : 1999 Extensions for DSM-CC**
(ISO/IEC 13818-6 : 1998)
542pp GrY

The concepts and protocols of this part provide the general capability to browse, select, download, and control a variety of bit stream types. DSM-CC also provides a mechanism to manage network and application resources through the concept of a Session, an associated collection of resources required to deliver a Service. The Session complements a 'Service Domain', a collection of interfaces to browse and select services, and control the delivery of bit streams.

***Part 7 : 1999 Advanced audio coding (AAC)**
(ISO/IEC 13818-7 : 1997)
147pp GrY

Describes the MPEG-2 audio non-backwards compatible standard called MPEG-2 Advanced Audio Coding, AAC [3], a higher quality multichannel standard than achievable while requiring MPEG-1 backwards compatibility. This MPEG-2 AAC audio standard allows for ITU-R "indistinguishable" quality according to [4] at data rates of 320 kb/s for five full-bandwidth channel audio signals.

***Part 9 : 1999 Extension for real time interface for systems decoders**
(ISO/IEC 13818-9 : 1996)
5pp GrY

Does not change or supersede any of the requirements in Part 1. All Transport Streams, whether or not they are delivered in accordance with the RTI shall comply with Part 1. In particular, the accuracy requirement in Part 1 for PCRs in Transport Streams is not changed by the requirements of this part.

Does not address decoder requirements related to clock acquisition and slew rate constraints.

SS 463 : -

National information infrastructure (NII) standards

Part 1 : 1999 Overview of architecture
11pp S\$15.00

Aims to evolve a nation-wide platform for information sharing and communication. It is essential that the various disparate networks and systems on the NII can connect and interoperate with each other.

It is therefore critical to establish open NII standards to promote the quality, efficiency, compatibility and competitiveness of products and services, on the NII and Singapore ONE.

Part 2 : 1999 Network
14pp S\$15.00

Provides network reference standards that enable compatibility and interoperability among the networks deployed in the Singapore's NII, especially in relation to Singapore ONE. Includes network interconnection and routing for Internet and ATM networks.

Part 3 : 1999 Security
18pp S\$21.00

Aims to address the following needs as a secure environment is necessary to serve as the fundamental underlying foundation for Singapore ONE and Electronic Commerce:

Authentication: verify identities of transacting parties.

Confidentiality: ensure information sent can be read only by the intended recipient.

Non-repudiation: proof of document origin, ensure transacting parties cannot dispute transaction after commitment.

Integrity: ensure messages sent will not be tampered with.

Part 4 : 1999 Electronic mail and directory
12pp S\$15.00

Electronic mail and directory services are important and prevalent services available on open networks such as Singapore ONE. The email and directory standards will help to specify a functional, scalable, efficient and interoperable Email infrastructure.

Covers directory services, message transfer, interconnectivity and integration among different mail services, secure email services, etc.

Part 5 : 1999 Electronic commerce
9pp S\$15.00

One of the most significant uses of the Internet is in the world of commerce. Electronic commerce standards in areas such as payments and online transactions are necessary to achieve a cost-effective, interoperable and easily deployable solutions.

Covers secure payment transaction over open networks.

Part 6 : 1999 Information sources and exchange
42pp S\$40.00

The deployment and widespread use of the Internet as a global information system has dramatically reduced the production and distribution costs associated with information dissemination. However, it has brought into focus the problems associated with incompatible formats for information content and catalogue data. Information sources and exchange standards are necessary to help promote compatibility in content format and access protocols so as to facilitate the emergence of an information-based economy in Singapore.

SS 464 : 1999 Sugar confectionery
29pp S\$27.00

Covers the requirements and methods of test for hard, medium and soft-boiled candies and other confectionery products. Addresses food safety and states the limits of trace heavy metals permitted in compliance with the Singapore Food Regulation 1988 and its amendment. Also addresses the quality of sugar confectionery which is governed by key compositional factors, namely moisture content and the type and ratio of component sugars.

SS 465 : 1999 Limits and method of measurement of radio interference characteristic of sound and television broadcast receivers and associated equipment
(IEC CISPR 13 : 1996)
(Withdrawn, March 2004. Refer directly to IEC CISPR 13 : 2003)

SS 466 : 1999 Kaya
37pp S\$34.00

Applies to kaya, a table spread/filling for edible purposes. Specifies two grades of kaya, grade A and B.

SS 467 : 2002 Smart card reader application program interface (API)
24pp S\$21.00

Describes the Dynamic Link Library (DLL) routines and functions that must be supported by the software driver for a smart card reader. Covers DLL versions available, functions that the DLL must support, the associated status and error returns codes needed for the reader and application development rules that must be followed in building the DLL. The application development rules includes structures declared in calling programs, size allocated for the structures (including that for backward compatibility) and steps to communicate with the smart card via the reader, using API commands. Specifies other functions that are required in the standard reader interface. Also specifies the syntax, description, parameters and return values of the API commands.

SS 468 : 1999 Stored value card application
21pp S\$21.00

Defines the command set used for the stored valued card within Singapore. Covers Access Conditions, Secure Messaging, Secure Writing and ISO Extension Stored Value Payment Commands.

SS 469 : - Printed boards
(Withdrawn, October 2003. Refer directly to relevant parts of IEC 62326)

Part 1 : 1999 Generic specification
(IEC 62326-1 : 1996)

Part 4 : 1999 Rigid multilayer printed boards with interlayer connections - Sectional specification
(IEC 62326-4 : 1996)

Part 4 : 1 : 1999 Rigid multilayer printed boards with interlayer connections - Sectional specification - Capability detail specification - Performance levels A, B and C
(IEC 62326-4-1 : 1996)

- SS 470 : - Hot-finished structural hollow sections of non-alloy and fine grain structural steels**
- Part 1 : 1999 Technical delivery requirements**
31pp S\$27.00
- Specifies the technical delivery requirements for hot finished hollow sections of circular, square or rectangular form and applies to hollow sections formed hot with or without subsequent heat treatment or formed cold with subsequent heat treatment to obtain equivalent metallurgical conditions to those obtained in the hot formed product.
- Part 2 : 1999 Tolerances, dimensions and sectional properties**
34pp S\$34.00
- Specifies the tolerances for hot finished circular, square and rectangular structural hollow sections and gives the dimensions and sectional properties for a range of standard sizes.
- SS 471 : 1999 Edison screw lampholders**
(IEC 60238 : 1998-09)
75pp S\$67.00
- Applies to lampholders with Edison thread E14, E27 and E40, designed for connection to the supply of lamps and semi-luminaires; switched lampholders for use in a.c. circuits only where the working voltage does not exceed 250 V; lampholders with Edison thread E5 designed for connection to the supply mains of series connected lamps, with a working voltage not exceeding 25 V; lampholders with Edison thread E10 designed for connection to the supply mains of series connected lamps, with a working voltage not exceeding 60 V; lampholders to be used indoors or outdoors in residential as well as in industrial lighting installations.
- SS 472 : 1999 15A plugs and switched socket-outlets for domestic and similar purposes**
Erratum No. 1, October 2001
27pp S\$27.00
- Provides the testing requirements for 15 A plugs and switched socket-outlets for use on a nominal supply voltage not exceeding 250 V a.c. single-phase 50 Hz.
- SS 473 : - Personal eye-protectors**
- Part 1 : 1999 General requirements**
63pp S\$54.00
- Specifies functional requirements for the various types of personal eye-protectors used mainly in industries.
- Part 2 : 1999 Selection, use and maintenance**
33pp S\$34.00
- Includes eye-protection in relation to the following hazards individually or in combinations:
- (a) Mechanical and chemical hazards;
 - (b) Non-ionizing optical radiation hazards;
 - (c) Combinations of the above.
- SS 474 : - Safety of toys**
- Part 1 : 2000 Mechanical and physical properties**
73pp S\$67.00
- Specifies requirements and describes methods of test for mechanical and physical properties of toys, to be taken into account in the manufacture of toys for children.
- Part 2 : 2000 Flammability**
13pp S\$15.00
- Specifies the categories of flammable materials which are prohibited in all toys and requirements concerning flammability of certain toys when they are submitted to a source of ignition.

Part 3 : 2000 Migration of certain elements
27pp S\$27.00

Specifies requirements and test methods for the migration of the elements: antimony, arsenic, barium, cadmium, chromium, lead, mercury and selenium from toy materials and from parts of toys except materials not accessible.

Part 4 : 2000 Experimental sets for chemistry and related activities
15pp S\$15.00

Specifies requirements for the maximum amount of certain substances and preparations used in experimental sets for chemistry and related activities.

Part 5 : 2000 Chemical toys (sets) other than experimental sets
26pp S\$27.00

Specifies requirements for the substances and materials used in chemical toys (sets) other than experimental sets.

Part 6 : 2000 Graphical symbol for age warning labelling
9pp S\$15.00

Specifies requirements for the use and design of a graphical symbol for age warning labelling on toys not suitable for children under 3 years of age.

SS 475 : -

Steel for the prestressing of concrete

Part 1 : 2000 General requirements
(ISO 6934-1 : 1991)
16pp S\$15.00

Specifies requirements for high tensile strength steel to be used in prestressed concrete. The specific properties for each type of prestressing steel are given in Parts 2 to 5.

Part 2 : 2000 Cold-drawn wire
(ISO 6934-2 : 1991)
15pp S\$15.00

Specifies requirements for round, cold-drawn, high tensile steel wire, either plain, indented, ribbed or crimped. The product is supplied as mill coil wire or straightened and stress-relieved wire in coils or cut lengths according to the general requirements in Part 1.

Part 3 : 2000 Quenched and tempered wire
(ISO 6934-3 : 1991)
15pp S\$15.00

Specifies requirements for round wire made of quenched and tempered high tensile steel, with a surface which is either plain, ribbed, grooved or indented. The product is delivered in coils according to the general requirements in Part 1.

Part 4 : 2000 Strand
(ISO 6934-4 : 1991)
13pp S\$15.00

Specifies requirements for high tensile steel strand which has been given a stress relieving heat treatment according to the general requirements in Part 1. The strand may contain either 2, 3, 7 or 19 individual wires.

Part 5 : 2000 Hot-rolled steel bars with or without subsequent processing
(ISO 6934-5 : 1991)
13pp S\$15.00

Specifies requirements for round high tensile steel bars. The bars may be supplied either hot-rolled or in hot-rolled and processed condition, according to the general requirements in Part 1. The surface may be plain or ribbed.

SS 476 : 2000 **High slag blastfurnace cement**
26pp S\$27.00

Specifies requirements for the composition and manufacture and for the strength, physical and chemical properties of high slag blastfurnace cement, as characteristic values. Also specifies requirements for marking, provision of information, sampling and testing for acceptance at delivery. Gives the procedures for the manufacturer's autocontrol system to ensure conformity.

SS 477 : 2000 **Portland blastfurnace cements**
26pp S\$27.00

Specifies requirements for the composition and manufacture and for the strength, physical and chemical properties of two Portland blastfurnace cements, Portland slag cement and blastfurnace cement, as characteristic values. Also specifies requirements for marking, provision of information, sampling and testing for acceptance at delivery. Gives the procedures for the manufacturer's autocontrol system to ensure conformity.

SS 478 : - **Quantities and units**

Part 0 : 2000 ***General principles**
(ISO 31-0 : 1992)
21pp GrY

Part 1 : 2000 ***Space and time**
(ISO 31-1 : 1992)
11pp GrY

Part 2 : 2000 ***Periodic and related phenomena**
(ISO 31-2 : 1992)
7pp GrY

Part 3 : 2000 ***Mechanics**
(ISO 31-3 : 1992)
18pp GrY

Part 4 : 2000 ***Heat**
(ISO 31-4 : 1992)
15pp GrY

Part 5 : 2000 ***Electricity and magnetism**
(ISO 31-5 : 1992)
28pp GrY

Part 6 : 2000 ***Light and related electromagnetic radiations**
(ISO 31-6 : 1992)
19pp GrY

Part 7 : 2000 ***Acoustics**
(ISO 31-7 : 1992)
11pp GrY

Part 8 : 2000 ***Physical chemistry and molecular physics**
(ISO 31-8 : 1992)
25pp GrY

Part 9 : 2000 ***Atomic and nuclear physics**
(ISO 31-9 : 1992)
20pp GrY

Part 10 : 2000 ***Nuclear reactions and ionizing radiations**
(ISO 31-10 : 1992)
25pp GrY

	Part 11 : 2000 *Mathematical signs and symbols for use in the physical sciences and technology (ISO 31-11 : 1992) 27pp GrY
	Part 12 : 2000 *Characteristic numbers (ISO 31-12 : 1992) 6pp GrY
	Part 13 : 2000 *Solid state physics (ISO 31-13 : 1992) 18pp GrY
SS 479 : 2000	Glow-starters for fluorescent lamps (IEC 60155 : 1993-11) 36pp S\$34.00 Specifies interchangeable starters used with pre-heat type tubular fluorescent lamps. Describes the general requirements with which glow starters shall comply in order to ensure safety and covers the requirements for performance.
SS 480 : -	Residual current operated circuit-breaker with integral overcurrent protection for household and similar uses (RCBOs) Part 1 : 2005 General rules (IEC 61009-1 : 2003) 144pp S\$120.00 Applies to residual current operated circuit-breakers with integral overcurrent protection functionally independent of, or functionally dependent on, line voltage, for household and similar uses. Applies to rated voltages not exceeding 440 V a.c., rated current not exceeding 125 A and rated short-circuit capacities not exceeding 25 000 A for operation at 50 Hz or 60 Hz. RCBOs having a rated residual operating current not exceeding 30 mA are also used as a means of additional protection in case of failure of the protective means against electric shock.
SS 481 : -	Medical electrical equipment Part 1 : 2000 *General requirements for safety (IEC 60601-1 : 1988) Amendment No. 1, June 2000 Erratum No. 1, November 2004 349pp GrY Applies to the safety of medical electrical equipment. Includes electrical equipment provided with not more than one connection to a particular supply mains and intended to diagnose, treat, or monitor the patient under medical supervision and which makes physical or electrical contact with the patient and/or transfer energy to or from the patient and/or detects such energy transfer to or from the patient.
SS 482 : -	Low voltage switchgear and controlgear assemblies Part 1 : 2000 Type-tested and partially type-tested assemblies (IEC 60439-1 : 1999) (Withdrawn, January 2005. Refer directly to IEC 60439-1 : 2004) Part 2 : 2000 Particular requirements for busbar trunking systems (buyways) (IEC 60439-2 : 2000) (Withdrawn, January 2005. Refer directly to IEC 60439-2 : 2000).
SS 483 : 2000	Ceramic tiles – Definitions, classification, characteristics and marking (ISO 13006 : 1998) (Withdrawn, September 2007. Refer directly to ISO 13006 and ISO 10545)

SS 484 : 2000**Debit and credit card applications on smart card**

42pp S\$40.00

Highlights the key components necessary to implement debit and credit smart card systems. Focuses on the various standards used in organising and processing information in chip-based programs, namely the Visa Specifications (VIS), MasterCard Specifications (M/CHIP) and the Europay, MasterCard and Visa (EMV) Specifications. When implementing debit and credit card applications, organisations are likely to adopt either the M/CHIP or the VIS standard.

Also provides an overview of M/CHIP and VIS specifications and aims to guide new users where to start when going through the M/CHIP and VIS specifications. Contains a section comparing the two specifications, aimed at helping developers to maximise the use of common functions where possible.

Does not set out detailed specifications for VIS and M/CHIP.

SS 485 : 2001**Slip resistance classification of public pedestrian surface materials**

35pp S\$34.00

Provides four means of classifying slip resistance of pedestrian surface materials in accordance with four test methods: wet pendulum, dry floor friction test, wet/barefoot ramp and oil-wet ramp. These test methods enable characteristics of surface materials to be determined in either wet or dry conditions.

SS 486 : -**Electromagnetic compatibility (EMC)**

Part 4 : 2 : 2001 Testing and measurement techniques – Electrostatic discharge immunity test
(IEC 61000-4-2 : 1995)

Part 4 : 3 : 2001 Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test
(IEC 61000-4-3 : 1995-02)

Part 4 : 4 : 2001 Testing and measurement techniques – Electrical fast transient/burst immunity test – Basic EMC publication
(IEC 61000-4-4 : 1995-01)

Part 4 : 5 : 2001 Testing and measurement techniques – Surge immunity test
(IEC 61000-4-5 : 1995-02)

Part 4 : 6 : 2001 Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields
(IEC 61000-4-6 : 1996-03)

Part 4 : 8 : 2001 Testing and measurement techniques – Power frequency magnetic field immunity test – Basic EMC publication
(IEC 61000-4-8 : 1993-06)

Part 4 : 9 : 2001 Testing and measurement techniques – Pulse magnetic field immunity test – Basic EMC publication
(IEC 61000-4-9 : 1993-06)

Part 4 : 10 : 2001 Testing and measurement techniques – Damped oscillatory magnetic field immunity test – Basic EMC publication
(IEC 61000-4-10 : 1993-06)

Part 4 : 11 : 2001 Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests
(IEC 61000-4-11 : 1994-06)

(Withdrawn, January 2005. Refer directly to relevant parts of IEC 61000-4).

- SS 487 : 2001** **Chillies and capsicums, whole or ground (powdered)**
(ISO 972: 1997)
30pp S\$27.00
- Specifies requirements for chillies and capsicums in the whole or ground (powered) form. Covers two main species of capsicum, *Capsicum annuum* L. and *C. frutescens* L., and their sub-species *C. chinense*, *C. pubescens* and *C. pendulum*. Does not apply to blend of ground chillies/capsicums and other spices available as a homogeneous mix. Does not cover paprika.
- SS 488 : 2001** **Portable 2-pin socket-outlets for class II equipment for household and similar purposes**
43pp S\$40.00
- Applies to portable 2-pin socket-outlets for a.c. only, without earthing contacts, with a rated voltage of 250 V and a rated current not exceeding 13 A, intended for household and similar purposes. It is an assembly consisting of a non-detachable 2-core flexible cable fitted with a 13 A plug complying with SS 145 : Part 1 and having a single or multiple 2-pin shuttered socket-outlets. The 2-pin socket-out shall accept flat, non-rewirable two-pole plug rated 2.5 A 250 V with cord and complying to EN 50075. The portable socket-outlet to be of the non-rewirable type, is so constructed that forms a complete unit with the flexible cable.
- SS 489 : 2001** **Fire shutters**
32pp S\$27.00
- Specifies requirements for fire shutters and testing methods to assess the fire-resistance of the shutters required to protect openings in walls and to resist passage of fire. Applies to fire-resistant vertical roller shutters, lateral shutter, horizontal roller shutters and folding sliding shutters. Does not include requirements necessary for day-to-day operation of fire shutters.
- SS 490 : -** **Lamp controlgear**
- Part 1 : 2001** **General and safety requirements**
(IEC 61347-1 : 2000)
Amendment No. 1, September 2005
62pp S\$54.00
- Specifies general and safety requirements for lamp controlgear for use on d.c. supplies up to 250 V and/or a.c. supplies up to 1000 V at 50 Hz or 60 Hz. Tests dealt with in this standard are type tests. To be used in conjunction with the appropriate part 2, which contains clauses to supplement or modify the corresponding clauses in part 1, to provide relevant requirements for each type of product.
- Part 2 : 3 : 2002 Particular requirements for a.c. supplied electronic ballasts for fluorescent lamps
(IEC 61347-2-3 : 2000-10)
(Withdrawn, October 2006)
- Part 2 : 4 : 2001** **Particular requirements for d.c. supplied electronic ballasts for general lighting**
(IEC 61347-2-4 : 2000-10)
14pp S\$15.00
- Specifies particular requirements for d.c. supplied electronic ballasts intended for operation from transient and surge-free power sources, operated directly from batteries without charging equipment.
- Part 2 : 7 : 2001** **Particular requirements for d.c. supplied electronic ballasts for emergency lighting**
(IEC 61347-2-7 : 2000-10)
24pp S\$21.00
- Specifies particular requirements for d.c. supplied electronic ballasts for maintained and non-maintained emergency lighting purposes. Includes specific requirements for ballasts

and control units for luminaires for emergency lighting as specified in SS 263 : Part 2 : 1998 - "Luminaires, Part 2 : Particular requirements for luminaires for emergency lighting".

Part 2 : 8 : 2001 Particular requirements for ballasts for fluorescent lamps
(IEC 61347-2-8 : 2000)
(Withdrawn, October 2006)

NOTE – For the parts that have been withdrawn, users can refer directly to the relevant parts of IEC 61347.

SS 491 : 2001 Ballasts for tubular fluorescent lamps, performance requirements
(IEC 60921 : 1988)
(Withdrawn, October 2004. Refer directly to IEC 60921)

SS 492 : 2001 Performance requirements for strength and robustness (including methods of test) for partition walls
58pp S\$54.00

Specifies the performance requirements for strength and robustness of a sample partition wall. The specimen to be tested includes a doorset. The surface finish of the partition is also tested. Performance levels are given for each requirement tested based on the frequency and/or intensity of the loads of the partition wall.

SS 493 : - IT security standards framework

Part 1 : 2001 An overview
16pp S\$15.00

Specifies an overview of the IT security standards framework with the aim to facilitate the development and adoption of IT security standards in Singapore. Covers the definition of IT security and IT security standards, the description, objectives, need, design criteria and the basis of deriving the IT security standards framework. Also covers the usage of the IT security standards framework.

SS 494 : 2001 Lead and chromate-free primer for iron and steel substrates
12pp S\$15.00

Applies to a ready-for-use paint suitable for use as a primer in the protection of iron and steel surfaces under both indoor and outdoor weathering conditions.

SS 495 : 2001 Impact attenuation of surface systems under and around playground equipment
29pp S\$27.00

Specifies requirements for surfacing to be used in children's playgrounds and specific requirements for areas where impact attenuation is necessary. Suggests the factors to be considered when selecting playground surfacing and gives a method of test by which the impact attenuation can be determined. Gives the critical fall height for surfacing that represents the upper limit of its effectiveness in reducing head injury when using playground equipment conforming to SS 457. Also includes specific provisions for performance requirements for impact absorbing playground surfacing and the relevant methods of test.

Does not give an indication of what contribution the product would make to an established fire or its response to a longer ignition source.

SS 496 : - eLearning framework

Part 1 : 2001 An overview
30pp S\$27.00

Specifies the eLearning framework that provides a comprehensive approach to developing courseware that are able to interoperate in different learning environments, be reusable and provide adequate mechanism to safeguard the intellectual property of the content providers.

Part 2 : 2001 Learning resource identification
64pp S\$54.00

Identifies learning resources. Internationally, there has been a shift away from developing monolithic and inflexible learning and training courses. The new shift is towards a set of database-driven learning objects that can be labelled, reused, searched, and modified independent of their delivery media. This is where it becomes important to label these learning resources.

Part 3 : 2003 Learning content packaging
57pp S\$54.00

Provides information on how learning content can be developed in a granular manner and then packaged into a consistent and coherent unit so that it can be exported to different Learning Management Systems (LMS) or Learning and Content Management System (LCMS) without making any change to the content itself.

Part 4 : 2003 Assessment and performance tracking
86pp S\$73.00

Covers the creation of question and test items that can be used and reused in assessment engines that have been developed conforming to the IMS QTI specification and the tracking of the performance of the student who participates in an online learning course.

Part 5 : 2004 eBook publication structure
46pp S\$40.00

Represents the content of electronic books to provide content providers (e.g. publishers, authors) and tool providers, minimal and common guidelines which will ensure fidelity, accuracy, accessibility, and adequate presentation of electronic content over various electronic book platforms and to reflect established content format standards. Defines a standard means of content description for use by purveyors of electronic books (e.g. publishers, agents, authors) allowing such content to be provided to multiple reading systems.

Part 6 : 2004 Singapore enterprise integration
73pp S\$67.00

Deals with the exchange of information about students, groups and enrollments between Learning Management Systems (LMS) and Enterprise Systems within an organisation. Specifies the exchange format in XML form. Does not cover how/when the systems should produce the data, which system is originating/receiving, the delivery mechanism, security and negotiations within the organisation and privacy issues.

Part 8 : 2005 Guidelines on common competencies for e-learning professionals
40pp S\$34.00

Covers the common competencies expected from e-learning professionals so that they can perform tasks like project management, instructional design, e-tutoring, technical development, etc. Aims to create a common understanding of the competencies that are required to perform the various e-learning tasks. Introduces a universally acceptable information model to allow the creation, exchange and reuse of competency definitions in applications such as Learning Management Systems, Human Resource Systems, Training Management Systems, competency or skills repositories, learning content, etc.

Part 9 : 2005 Singapore learner profile
230pp S\$140.00

Supports the exchange of learner information among learning management systems, human resource systems, student information systems, enterprise e-learning systems, knowledge management systems, resume repositories, and other systems used in the learning process. Does not address requests for learner information or the exchange transaction mechanism.

Part 10 : 2008 Digital content framework
50pp S\$47.00

Provides some definitions, rules, ideas and structures which will allow digital learning content to be designed, developed, evaluated and shared. The digital learning content can be deployed in various educational and training frameworks meant for content-driven or process-driven learning. Covers some evaluation criteria. Does not provide detailed instructions on designing or developing digital courseware. Includes the Ministry of Education's (MOE) guidelines on specific ways of developing digital courseware.

SS 497 : 2002 Design, safe use and maintenance of overhead travelling cranes
65pp S\$60.00

Applies to all types of overhead travelling cranes (OTC) but excludes jib cranes, gantry cranes and monorail hoists. Specifies the basic requirements of OTC and lays down the responsibilities of the relevant parties who are involved in the design, use, maintenance, testing and inspection of OTC.

SS 498 : - Hot-applied thermoplastic road marking materials

Part 1 : 2002 Constituent materials and mixtures
36pp S\$34.00

Specifies the requirements for white, yellow, red and black thermoplastic road marking materials and their constituents that are melted and applied hot to road surfaces, using screeded or sprayed application, as thin superimposed layers for centre lines, edge lines, pedestrian crossing stripes and the like. Does not apply to thermoplastic materials intended to be inset into the road surface. The marking material consists of an aggregate which is light coloured except for black thermoplastic material, pigment and extenders, bound together with a thermoplastic resin, plasticized as necessary. Makes provision for reflectorization using solid glass beads of a suitable grade complying with BS 6088 to improve the visibility of road markings.

Part 2 : 2002 Road performance
22pp S\$21.00

Specifies the performance requirements for type approval of white thermoplastic materials complying with SS 498 : Part 1, which have been melted and applied hot to road surfaces using screeded or sprayed application, as thin superimposed markings for centre lines, edge lines, pedestrian crossing stripes and the like. Does not apply to thermoplastic materials intended to be inset into road surfaces. Makes provision for the results obtained on the white materials is the same as for the white material except for the pigment of the thermoplastic material. Also makes provision for the performance of the materials to be tested with the addition of solid glass beads.

Part 3 : 2002 Application of material to road surfaces
15pp S\$15.00

Specifies the requirements for the application of white, yellow, red and black thermoplastic materials which are melted and applied hot to road surfaces, using screeded or sprayed methods, as thin superimposed markings for centre lines, edge lines, pedestrian crossing stripes and the like. Does not apply to thermoplastic materials intended to be inset into road surfaces. Makes provision for the application of additional solid glass beads for the purposes of reflectorization.

SS 499 : 2002 The cleaning service industry – Cleaning performance for commercial premises
23pp S\$21.00

Specifies the quality of cleaning services to performance standards. Applies to the quality of cleaning services in commercial premises.

- SS 500 : 2002 Elastomeric wall coatings**
18pp S\$21.00
- Applies to a ready-to-use, air-drying elastomeric wall emulsion paint with waterproofing and repairing of fine cracks properties for exterior use on masonry surfaces. Covers also the recoating of previously painted surfaces which are in a sound condition and suitable for receiving such a coating.
- SS 501 : - Public key infrastructure security standards**
- Part 1 : 2003 Framework overview**
23pp S\$21.00
- Provides an overview of the Public Key Infrastructure (PKI) standards framework with the aim to facilitate the development and adoption of PKI standards in Singapore. Covers the definition of PKI related standards, the need for a PKI standards framework, PKI standards framework, PKI components, architectures and protocols, PKI certificates and certificate hierarchy, PKI management and policies, usage of the PKI standards framework.
- SS 502 : 2003 Textured coatings for exterior walls**
13pp S\$15.00
- Applies to textured coating systems on concrete surfaces for exterior walls of buildings.
- SS 503 : - Cold formed welded steel structural hollow sections**
- Part 1 : 2003 Technical delivery requirements**
33pp S\$34.00
- Specifies the technical delivery requirements for cold formed welded steel structural hollow sections of circular, square or rectangular form and applies to structural hollow sections formed cold without subsequent heat treatment.
- Part 2 : 2003 Tolerances, dimensions and sectional properties**
36pp S\$34.00
- Specifies the tolerances for cold formed welded steel structural hollow sections of circular, square or rectangular form and gives the dimensions and sectional properties for a range of standard sizes.
- SS 504 : - Conduit systems for cable management**
- Part 1 : 2003 General requirements**
(IEC 61386-1 : 1996-11 including IEC Amendment 1 : 2000-11)
53pp S\$47.00
- Specifies requirements and tests for conduit systems, including conduits and conduit fittings, for the protection and management of insulated conductors and/or cables in electrical installations or in communication systems up to 1000 V a.c. and/or d.c. Applies to metallic, non-metallic and composite systems including threaded and non-threaded entries, which terminate the system.
- Part 21 : 2003 Particular requirements for rigid conduit systems**
(IEC 61386-21 : 2002-02)
21pp S\$21.00
- Covers particular requirements for rigid conduit systems and has been included for user selection.
- Part 22 : 2003 Particular requirements for pliable conduit systems**
(IEC 61386-22 : 2002-02)
19pp S\$21.00
- Covers particular requirements for pliable conduit systems and has been included for user selection.

SS 505 : 2003 **Exhibition management services industry - Exhibition terminology and audit procedures**
22pp S\$21.00

Sets out the definitions to be adopted by the industry. Includes the recommended set of standard procedures for auditors auditing exhibitions. Categorises economies into respective regions so that exhibiting companies from various countries and economies are consistently categorised into the same regions/areas.

SS 506 : - **Occupational safety and health (OSH) management system**

Part 1 : 2004 **Specification**
31pp S\$27.00

This standard is an adoption of the Occupational Health and Safety Assessment Series (OHSAS) 18001 : 1999 and gives requirements for an occupational health and safety (OHS) management system, to enable an organization to control its OHS risks and improve its performance. It does not state specific OHS performance criteria, nor does it give detailed specifications for the design of a management system.

Part 2 : 2004 **General guidelines for the implementation of OHS management system**
64pp S\$54.00

This standard is an adoption of the Occupational Health and Safety Assessment Series (OHSAS) 18002 : 1999 and provides generic advice on the application of the OHS management system specification in Part 1 of this series. It explains the underlying principles of the specification and describes the intent, typical inputs, processes and typical outputs, against each requirement in the specification. This is to aid the understanding and implementation of OHS management system in the various sectors. This standard also provides a summary on the relationship with the elements in the safety management system under the Factories Act (Chapter 104).

Part 3 : 2006 **Requirements for the chemical industry**
37pp S\$34.00

Enables the organisation to set-up, implement, maintain and improve its management system so as to control its OSH risks and improve its performance. Addresses OSH processes rather than product and services. Specifies OSH management requirements satisfying both SS 506-1 (equivalent to OHSAS 18001) and the Ministry of Manpower's safety management system for audit and certification.

SS 507 : 2008 **Information and communications technology disaster recovery services**
(ISO/IEC 24762 : 2008)
82pp S\$73.00

Provides a basis to certify DR service providers and any end-user organisations. Serves as an industry best practice for any organisation that wishes to make reference to it.

SS 508 : - **Graphical symbols – Safety colours and safety signs**

Part 1 : 2004 **Design principles for safety signs in workplaces and public areas**
(ISO 3864-1 : 23002)
31pp S\$27.00

Applies to workplaces and all locations and all sectors where safety-related questions may be posed. Does not apply to the signalling used for guiding rail, road, river, maritime and air traffic.

Establishes the safety identification colours and design principles for safety signs to be used in workplaces and in public areas for the purpose of accident prevention, fire protection, health hazard information and emergency evacuation. Also establishes the basic principles to be applied when developing standards containing safety signs.

Part 2 : 2008 Design principles for product safety labels
(ISO 3864-2 : 2004)
34pp S\$34.00

Establishes additional principles to SS 508-1 for the design of safety labels for products, i.e any items manufactured and offered for sale in the normal course of commerce, including but not limited to consumer products and industrial equipment. The purpose of product safety label is to alert persons to a specific hazard and to identify how the hazard can be avoided.

Part 3 : 2004 Safety signs used in workplaces and public areas
(ISO 7010 : 2003)
45pp S\$40.00

Applies to workplaces and all locations and all sectors where safety-related questions may be posed. Does not apply to the signalling used for guiding rail, road, river, maritime and air traffic.

Prescribes safety signs for the purposes of accident prevention, fire protection, health hazard information and emergency evacuation.

Part 4 : 2008 Design principles for graphical symbols for use in safety signs
(ISO 3864-3 : 2006)
37pp S\$40.00

Gives principles, criteria and guidance for the design of graphical symbols for use in safety signs as defined in SS 508-1 and the safety sign element of product safety labels as defined in SS 508-2.

SS 509 : -

Code of practice for cleaning and surface repair of buildings

Part 1 : 2005 Cleaning of natural stones, brick, terracotta, concrete and rendered finishes
45pp S\$40.00
(Formerly CP 67 : Part 1 : 1997)

Provides guidance on the removal or partial removal of deposits from the original surface or substrate of a building. Advice is given on the principal cleaning methods in use and the characteristics of surface deposits. Guidance is also given on cleaning natural stones, clay brick, calcium silicate brick, glazed and unglazed terracotta/faience, as-cast concrete and concrete products such as cast stone, concrete brick and concrete blockwork.

Part 2 : 2005 Surface repair of natural stones, brick, terracotta and rendered finishes
48pp S\$40.00
(Formerly CP 67 : Part 2 : 1999)

Provides recommendations for surface repair of natural stones, clay brick, calcium silicate brick, glazed and unglazed terracotta, and faience masonry in buildings. It covers repointing and selection of mortar and provides guidance on treatment for protection of surfaces. Structural repairs are not covered by this code.

SS 510 : 2005

Code of practice for safety in welding and cutting (and other operations involving the use of heat)
64pp S\$54.00
(Formerly CP 50 : 1997)

Covers the safety practices to protect persons from injury and illness, and properties (including equipment) from damage by fire and other causes arising from welding and cutting equipment, its installation, operation and maintenance. Includes specific provisions for gas welding, shielded metal arc welding, submerged arc welding, gas metal arc welding, gas tungsten arc welding, brazing, resistance welding, and thermit welding.

- SS 511 : 2005** **Code of practice for diving at work**
60pp S\$54.00
- Specifies requirements for the personnel, equipment and procedures involved in occupational underwater operations in up to 50 m depth of water, where compressed breathing gas is supplied either through surface-supplied breathing apparatus (SSBA) or self-contained underwater breathing apparatus (SCUBA).
- SS 512 : 2005** **Code of practice for the design, construction and operation of pipeline service corridors**
106pp S\$93.00
- Sets out the engineering and management system requirements in the design, construction and operation of pipeline service corridors in Singapore. Applies only for new piperacks / pipetracks in existing pipeline service corridors or new pipeline service corridors.
- SS 513 : -** **Personal protective equipment – Footwear**
- Part 1 : 2005** **Safety footwear**
(ISO 20345 : 2004)
Erratum No. 1, November 2007
38pp S\$34.00
- Specifies basic and additional (optional) requirements for safety footwear.
- Part 2 : 2005** **Test methods for footwear**
(ISO 20344 : 2004)
84pp S\$73.00
- Specifies methods for testing footwear designed as personal protective equipment.
- SS 514 : 2005** **Code of practice for office ergonomics**
31pp S\$27.00
- Provides guidelines on the designs and improvements of working situations to make the workplace safer, more comfortable and more productive. Covers the fundamentals of office ergonomics including physical, environmental and psychosocial elements. Includes a sample checklist to identify potential problems for further improvements on the design for preliminary ergonomics audit.
- SS 515 : 2005** **Code of practice for supervision of structural works**
65pp S\$60.00
- Provides guidance on the supervision of structural works at construction sites. Gives the minimum requirements for supervision of structural works. Covers the supervision of shallow foundations, piling works, insitu concrete, precast concrete, prestressing of concrete, structural steelworks and structural timber. Does not cover temporary works.
- SS 516 : 2005** **Code of practice for application, operation and maintenance of dry-type transformers**
19pp S\$21.00
(Formerly CP 58 : 1992)
- Provides guidelines on the application, operation, and maintenance of dry-type transformers having values of highest voltage for equipment up to and including 24 kV and at least one winding operating at greater than 1.1 kV. Provides guidance on the safe and effective operation of transformers to minimise risk of breakdown and consequent interruption of supply.

- SS 517 : 2005** **Code of practice for information exchange and documentation at handing / taking-over of buildings upon completion**
18pp S\$21.00
- Defines the minimum documentation and information requirements across the different building types. Also defines the scope, characteristics and processes of information exchange and documentation associated with effective document management.
- SS 518 : 2006** **Contactless e-purse application**
46pp S\$40.00
- Defines the specifications for contactless epurse application. Covers the command sets used by the contactless epurse application. Focuses on the debit and credit commands but excludes details on file management aspects. Since ISO/IEC 7816 Part 4 on inter-industry commands does not include debit and credit commands, this standard also serves to cover these areas.
- SS 519 : 2006** **Performance of managing agents for strata residential properties**
29pp S\$27.00
- Aims to assist the management corporation and the managing agent to choose the best mix of statutory provisions, general law and contractual terms by providing the specimen Appointment of Managing Agent Agreement set out in Annex A for their adoption, where applicable. The Agreement incorporates, as far as practicable, the relevant statutory provisions, the general principles of law applicable to professional service providers and their clients, and the sort of commercial terms which can be envisaged by both the management corporation and managing agent to be a fair and reasonable basis for a harmonious relationship of mutual respect for a cost-efficient and well-run residential estate.
- SS 520 : 2006** **Code of practice for microfilming of documents on 16 mm black and white, silver-gelatin type microfilm / planetary and rotary camera filming – Operating procedures**
23pp S\$21.00
(Formerly CP 69 : 1998)
- Applies to the microfilming of source documents on 16 mm black and white, silver gelatin microfilm using planetary and rotary cameras. Describes filming conditions and procedures. Does not cover quality control, filming on 35 mm and 105 mm formats, colour microfilming, filming on 16 mm camera-processor and filming on 35 mm planetary camera using 16 mm format.
- SS 521 : 2006** **Code of practice for microfilming of technical drawings and other drawing office documents on 35 mm black and white, silver-gelatin type microfilm / planetary camera filming – Operating procedures**
21pp S\$21.00
(Formerly CP 70 : 1998)
- Applies to the microfilming of technical drawings and other drawing office documents on 35 mm black and white, silver-gelatin type microfilm using planetary cameras only. Describes filming conditions and procedures. Does not cover quality control, filming on 16 mm and 105 mm formats, colour microfilming and filming on 35 mm camera-processor.
- SS 522 : 2006** **Code of practice for quality control inspection of 16 mm and 35 mm black and white, silver-gelatin type**
44pp S\$40.00
(Formerly CP 71 : 1998)
- Applies to the quality control of 16 mm and 35 mm black and white silver gelatin type microfilm. Does not cover filming on 16 mm and 35 mm camera-processor and colour microfilming. Includes use of control strips to monitor processing.

- SS 523 : 2006** **Code of practice for microfilming of newspapers on 35 mm black and white, silver-gelatin type microfilm / planetary camera filming – Operating procedures**
18pp S\$21.00
(Formerly CP 72 : 1998)
- Applies to the microfilming of local newspapers on 35 mm black and white silver-gelatin type microfilm using planetary cameras. Describes filming conditions and procedures. Does not cover quality control, filming of newspapers on 16 mm and 105 mm formats, colour microfilming and filming on 35 mm camera-processor.
- SS 524 : 2006** **Quality management for bunker supply chain (QMBS)**
19pp S\$21.00
- Developed for an effective and efficient quality management for bunker supply chain (QMBS) and consequently to serve as the standard for improvement of the performance of bunker suppliers.
- SS 525 : 2006** **Code of practice for drainage of roofs**
72pp S\$60.00
Amendment No. 1, August 2007
(Formerly CP 26 : 1983)
- Deals with the drainage of rainwater from roofs (including external walls) and recommends methods of designing gutters, gutter outlets and rainwater downpipes. Includes calculation of catchment areas and the required flow rate. Also includes performance requirements for siphonic roof drainage. Gives guidance on the choice of materials in connection with fixing and jointing the drainage systems. Covers the inspection, testing and maintenance requirements. Also includes guidelines on the design of gutters for the prevention of mosquito breeding.
- SS 526 : -** **Content exchange metadata standards for the education sector**
- Part 1 : 2006** **Metadata standards**
59pp S\$54.00
- Aims to establish a content exchange structure to facilitate easy search and retrieval of local digital education content. Ensure that information resources can be labelled easily, be retrieved quickly, be assessed for relevance to a particular purpose, be used and reused for exchange between multiple repositories of information resources. Details the metadata elements and element refinements of CEMS. Provides suggested mappings to other common metadata standard where possible.
- Part 2 : 2006** **Taxonomy standards**
62pp S\$54.00
- Provides the encoding schemes referenced in the element description specific to CEMS. These encoding schemes are customised to meet the requirements of the local education sector.
- SS 527 : 2006** **Code of practice for building project document control system**
22pp S\$21.00
- Establishes a master file template to support Document Management and Workflow software for the developers/consultants/contractors and sub-contractors to use concurrently an integrated/interoperable Project Planning Control Extranet System.
- SS 528 : -** **Personal fall-arrest systems**
- Part 1 : 2006** **Full-body harnesses**
(ISO 10333-1 : 2000)
30pp S\$27.00
- Specifies the requirements, test methods, instructions for general use, marking, packaging and maintenance for full-body harnesses.

Part 2 : 2006 Lanyards and energy absorbers

(ISO 10333-2 : 2000)

28pp S\$27.00

Specifies requirements, test methods, instructions for use and maintenance, marking, labelling and packaging, as appropriate, for lanyards and energy absorbers.

Part 3 : 2006 Self-retracting lifelines

(ISO 10333-3 : 2000)

30pp S\$27.00

Specifies requirements, test methods, instructions for use and maintenance, marking, labelling and packaging, as appropriate, for self-retracting lifelines, including self-retracting lifelines that have an integral-rescue facility.

Part 4 : 2006 Vertical rails and vertical lifelines incorporating a sliding-type fall arrester

(ISO 10333-4 : 2002)

41pp S\$40.00

Specifies requirements, test methods, instructions for use and maintenance, marking, labelling and packaging, as appropriate, for vertical rails and vertical lifelines which incorporate a sliding-type fall arrester.

Part 5 : 2006 Connectors with self-closing and self-locking gates

(ISO 10333-5 : 2001)

22 pp S\$21.00

Specifies requirements, test methods, instructions for use and maintenance, marking, labelling and packaging, as appropriate, for connectors with self-closing and self-locking gates made from metallic materials.

Part 6 : 2006 System performance tests

(ISO 10333-6 : 2004)

41pp S\$40.00

Specifies tests and requirements for complete personal fall arrest systems made up from specific combinations of components and subsystems selected from those conforming to the other parts of ISO 10333, where it is both important and desirable to ascertain satisfactory system performance and interactive component compatibility.

SS 529 : 2006

Smart card ID

38pp S\$34.00

Specifies the data structure, security and access conditions for a smart card that contains personal identification data. Applies to devices like smart cards such as handheld computing devices (personal digital assistants – PDAs), watches and mobile phones. The smart card or smartcard-like devices can communicate by contact or contactless means, and they only need to comply with the data structures, security and application protocol data units (APDUs) specified in this standard. Applies to both the card and reading device (i.e. the software and hardware).

SS 530 : 2006

Code of practice for energy efficiency standard for building services and equipment

24pp S\$21.00

(Formerly CP 24 : 1999)

Provides minimum energy-efficiency requirements for new installation and replacement of systems and equipment in buildings, and replacement of components of systems and equipment in buildings. Also covers the criteria for determining compliance with these requirements.

SS 531 : -

Code of practice for lighting of work places

Part 1 : 2006 Indoor
(ISO 8995-1 : 2002 / CIE S 008/E-2001)
29pp S\$27.00

Provides guidance for illuminance, glare limitation and colour quality for general building areas, offices, types of industries, power stations, retailing, restaurants, hotels, places of entertainment, libraries, indoor car parks, educational buildings, health care premises, airports and places of worship.

Part 2 : 2008 Outdoor
(CIE S 015/E-2005)
36pp S\$34.00

Specifies lighting requirements for outdoor work places which meet the needs for visual comfort and performance. Does not specify lighting requirements with respect to the safety and health of workers at work, although the lighting requirements, as specified in the standard, usually fulfil safety needs. Neither provides specific solutions, nor restricts the designers' freedom from exploring new techniques nor restricts the use of innovative equipment. Covers the need to consider energy and sustainability of the lighting installation.

Part 3 : 2008 Lighting requirements for safety and security of outdoor work places
(ISO 8995-3 : 2006 / CIE S 016/E-2005)
20pp S\$21.00

Specifies the lighting requirements which will contribute to the visual needs for safety and security within outdoor work places.

SS 532 : 2007

Code of practice for storage of flammable liquids
84pp S\$73.00
(Formerly CP 40 : 1987)

Sets out requirements and recommendations for the safe storage and handling of flammable liquids, as classified in the chapter on the flammable liquids in the United Nations Globally Harmonised System of Classification and Labelling of Chemicals (GHS). Covers liquids of flash point up to 150 °C. Does not apply to shipboard installations, mobile storage, plant or equipment in which liquid is processed, together with any vessels which form an integral part of the processing plant or equipment, bitumen and its mixtures prepared for road-making, flammable liquids stored in tanks exceeding 175 millibar above atmospheric pressure and liquefied gases that are maintained in the liquid phase for storage by means of pressure or refrigeration.

SS 533 : 2007

Cleaning performance for public housing estates
34pp S\$34.00

Provides guidelines on cleaning services and the measurement system for public housing estates. Does not cover commercial premises.

SS 534 : 2007

Outdoor fitness equipment for public use
16pp S\$15.00

Specifies safety requirements that are generally applicable to all stationary fitness equipment. Applies to stationary fitness equipment intended for use by healthy adults, elderly persons and persons with disabilities.

SS 535 : 2007

Code of practice for installation, operation, maintenance, performance and construction requirements of mains failure standby generating systems
44pp S\$40.00
(Formerly CP 31 : 1996)

Applies to the performance and constructional requirements, installation, operation, testing, inspection and maintenance of standby mains failure generating sets for buildings and

where applicable to mobile generating sets. Does not apply to installations for marine or offshore or base load use. Installations shall be designed to conform to the requirements of the relevant authorities in Singapore.

SS 536 : 2007

Code of practice for the safe use of mobile cranes

83pp S\$73.00
(Formerly CP 37 : 2000)

Provides information on the construction, application, operation, maintenance and testing of mobile cranes for their safe use. Covers land-based fully-mobile cranes which include rope suspended boom and hydraulic boom types of cranes. Excludes lorry loaders.

SS 537 : -

Code of practice for safe use of machinery

Part 1 : 2008 General requirements

100pp S\$87.00

Provides comprehensive guidelines on the methods for safeguarding the dangerous parts of machinery and enhancing safety in the use of machinery. Also provides basic requirements on the design and manufacture of machinery so as to ensure that machinery used in Singapore incorporates basic safety features. Also includes guidelines on the safety and health issues relating to the installation, testing, maintenance and servicing of machinery. Covers only mechanical hazards.

SS 538 : 2008

Code of practice for maintenance of electrical equipment of electrical installations

72pp S\$60.00
(Formerly CP 17 : 1991)

Covers the maintenance of electrical equipment for voltages up to and including 22 kV to enhance safe and proper operation of electrical installations with reduced risk of breakdown and the consequent interruption of supply. Provides recommendations for the maintenance of electrical equipment. Also provides information on an organised system of routine maintenance keeping electrical equipment, both indoor and outdoor, and its associated apparatus in good working order.

SS 539 : 2008

Guidelines for safety and operational management for indoor exhibitions

33pp S\$34.00

Provides guidance on the technical and operational safety aspects of an exhibition in five broad categories - structural safety, fire safety, electrical safety, machinery and equipment safety and environmental and health safety. Also provides guidance on certain operational management aspects that have safety implications.

SS 540 : 2008

Singapore Standard for business continuity management (BCM)

54pp S\$47.00

Specifies the requirements for organisations intending to build competence, capacity, resilience and readiness to respond and recover from events which threaten to disrupt normal business operations and activities. Stipulates the requirements to attain and maintain readiness to deal with risks and risk events faced by organisations due to the nature of their businesses, external environment or regulatory requirements.

SS 541 : 2008

Restraint belts

20pp S\$21.00

Describes the essential characteristics of restraint belt. Gives guidance for the maintenance, inspection and storage of restraint belts and prescribes a performance test. Includes recommendations for fixtures for the attachment of belts.

SS 542 : 2008**Code of practice for the painting of buildings**

55 pp S\$47.00
(Formerly CP 22 : 1981)

Sets out the requirements of good industry practices for the painting of low and high rise buildings, excluding specialised buildings. Takes into account the need to protect many building surfaces against the weather or other forms of attack normally encountered.

Paints referred to are principally of conventional type, generally of acrylic, enamel, polyurethane, epoxy, silicone and intumescent types but limited reference is made to special paints. Does not claim to cover in details the wide and constant increasing range of paints available. Excludes some types of paint because of their obsolescence, limited or specialised usage, environmental hazard or, in the case of newly-developed products, lack of experience of their performance in service.

SS 543 : 2008**QR code**

150pp S\$126.00

Specifies the QR Code 2005 symbology characteristics, data character encoding methods, symbol formats, dimensional characteristics, error correction rules, reference decoding algorithm, production quality requirements, and user-selectable application parameters.

Includes additional informative national annexes on utilising QR and micro QR codes and examples of applications e.g. patient identification and medicine administration traceability using QR Code printed on patients' wrist bands.

SS 586 : -**Hazard communication for hazardous chemicals and dangerous goods****Part 1 : 2008****Transport and storage of dangerous goods**

29pp S\$27.00

Adopts the United Nations Recommendations on the Transport of Dangerous Goods, which provides an international system for the classification of dangerous goods by the types of hazards that they present. Also provides standard hazard communication labels. Applies to the transportation and storage of dangerous goods by road in Singapore.

Part 2 : 2008**Globally harmonised system of classification and labelling of chemicals – Singapore's adaptations**

24pp S\$21.00

Adopts the United Nation Globally Harmonised System (GHS) of Classification and Labelling of Chemicals, which provides an international system for the classification of chemicals by the types of hazards they present. Also provides standard hazard communication elements including labels and safety data sheets. The GHS ensures that information on physical, health and environmental hazards from chemical is made available, in order to enhance the protection of human health and the environment during the handling, transport and use of these chemicals. The GHS provides for the global harmonisation of rules and regulations on the classification and labelling of chemicals as well as hazard communication about chemicals.

Part 3 : 2008**Preparation of safety data sheets (SDS)**

67pp S\$60.00

Gives recommendations for the preparation, review, issue and use of SDS. Covers the responsibility of the suppliers and manufacturers of chemical substances, as well as that of the users (employers and employees) to make use of the information in the SDS to prevent unnecessary exposure of hazardous substances to persons in the workplace and community. Also includes preparations in the compilation and completion of an SDS. Does not cover the use of pharmaceutical substances and preparations by medical physicians and veterinarians in the management of the health of a person or an animal, but applies to the production and use of these substances and preparations in an industrial process.

SS 600 : 2008**Code of practice for bunkering**

81pp S\$48.00
(Formerly CP 60 : 2004 and CP 77 : 1999)

Chapter One: Covers the delivery by bunker tankers. Specifies the procedures and requirements for the delivery of bunker by bunker tankers to vessels in the Port of Singapore, including documentation, equipment and verification during a bunkering operation. Covers pre-delivery, actual delivery and post delivery checks and documentation. Chapter Two: Covers the procedure for bunker surveying. Describes a method for specifying practical procedures for bunker surveying on board bunker tankers and vessels.

SS EN 197: -**Cement****Part 1 : 2008 Composition, specifications and conformity criteria for common cements**

52pp S\$47.00

Specifies 27 distinct common cement products and their constituents. The definition of each cement includes the proportions in which the constituents are to be combined to produce these distinct products in a range of six strength classes. The definition also includes requirements the constituents have to meet and the mechanical, physical and chemical including, where appropriate, heat of hydration requirements. Also states the conformity criteria and necessary durability requirements.

Part 2 : 2008 Conformity evaluation

31pp S\$27.00

Specifies the scheme for the evaluation of conformity of cements to their corresponding product specification standards, including certification of conformity by a certification body.

Part 4 : 2008 Composition, specifications and conformity criteria for low early strength blastfurnace cements

30pp S\$27.00

Specifies 3 distinct low early strength blastfurnace cement products and their constituents. The definition of each cement includes the proportions in which the constituents are to be combined to produce these distinct products in a range of three strength classes. The definition also includes requirements the constituents have to meet and the mechanical, physical, chemical, including where appropriate, heat of hydration requirements. Also states the conformity criteria and necessary durability requirements.

SS EN 420 : 2003**Protective gloves – General requirements and test methods**

36pp S\$34.00

Defines the general requirements and relevant test procedures for glove design and construction, resistance of glove materials to water penetration, innocuousness, comfort and efficiency, marking and information supplied by the manufacturer.

Does not apply to gloves used by the medical profession, used for protection against electrical hazards or for handling of products where cleanliness is of importance (e.g. food, PCB).

SS EN 934 : -**Admixtures for concrete, mortar and grout****Part 1 : 2008 Common requirements**

15pp S\$15.00

Specifies the common requirements for all admixtures covered by SS EN 934-2 and SS EN 934-4.

Part 2 : 2008 Concrete admixtures – Definitions, requirements, conformity, marking and labelling
30pp S\$27.00

Specifies definitions and requirements for admixtures for use in concrete. Covers admixtures for plain, reinforced and prestressed concrete which are used in site mixed, ready mixed concrete and precast concrete. Performance requirements apply to admixtures used in concrete of normal consistence.

Part 4 : 2008 Admixtures for grout for prestressing tendons – Definitions, requirements, conformity, marking and labelling
21pp S\$21.00

Specifies requirements and conformity criteria for admixtures for use in grouts for prestressing tendons according to EN 447. Covers admixtures for use in site mixed grout only.

Part 6 : 2008 Sampling, conformity control and evaluation of conformity
15pp S\$15.00

Specifies procedures for sampling, conformity control and evaluation of conformity, for admixtures according to the series SS EN 934.

SS EN 1990 : 2008 Eurocode – Basis of structural design
128pp S\$107.00

Used together with NA to SS EN 1990. Establishes principles and requirements for the safety, serviceability and durability of structures, describes the basis for their design and verification and gives guidelines for related aspects of structural reliability. Intended to be used in conjunction with relevant Eurocodes (e.g. SS EN 1991, SS EN 1992) for the structural design of buildings and civil engineering works, including geotechnical aspects, structural fire design, situations involving earthquakes, execution and temporary structures. Applicable for the design of structures where other materials or other actions outside the scope of EN 1991 to EN 1999 are involved. Also applicable for the structural appraisal of existing construction, in developing the design of repairs and alterations or in assessing changes of use.

NA to SS EN 1990 : 2008

Singapore National Annex to Eurocode – Basis of structural design
14pp S\$15.00

Used together with SS EN 1990. Gives the nationally determined parameters for SS EN 1990 where national choice is allowed.

SS EN 1991 : - Eurocode 1 – Actions on structures

Part 1-1 : 2008 General actions – Densities, self-weight, imposed loads for buildings
52pp S\$47.00

Used together with NA to SS EN 1991-1-1. Gives nominal values for densities of specific building materials, additional materials for bridges and stored materials. In addition for specific materials the angle of repose is provided. Provides methods for the assessment of the characteristic values of selfweight of construction works. Also gives characteristic values of imposed loads for floors and roofs according to category of use in the following areas in buildings: residential, social, commercial and administration areas; garage and vehicle traffic areas; areas for storage and industrial activities; roofs; helicopter landing areas.

Part 1-2 : 2008 General actions – Actions on structures exposed to fire
67pp S\$60.00

Used together with NA to SS EN 1991-1-2. Methods are applicable to buildings, with a fire load related to the building and its occupancy. Deals with thermal and mechanical actions on structures exposed to fire. Intended to be used in conjunction with the fire design parts of relevant Eurocodes which give rules for designing structures for fire resistance. Contains

**NA to SS EN
1991-1-1 : 2008**

thermal actions related to nominal and physically based thermal actions, with more data and models for physically based thermal actions given in annexes.

Singapore National Annex to Eurocode 1 – Actions on structures, Part 1-1 : General actions – Densities, self-weight, imposed loads for buildings
19pp S\$21.00

Used together with SS EN 1991-1-1. Gives the Singapore decision for the nationally determined parameters for SS EN 1991-1-1 where national choice is allowed.

**NA to SS EN
1991-1-2 : 2008**

Singapore National Annex to Eurocode 1 – Actions on structures, Part 1-2 : General actions – Actions on structures exposed to fire
13pp S\$15.00

Used together with SS EN 1991-1-2. Gives the Singapore decision for the nationally determined parameters for SS EN 1991-1-2 where national choice is allowed.

SS EN 1992 : -

Eurocode 2 – Design of concrete structures

Part 1-1 : 2008 General rules and rules for buildings
233pp S\$140.00

Used together with NA to SS EN 1992-1-1. Applies to the design of buildings and civil engineering works in concrete. Complies with the principles and requirements for the safety and serviceability of structures, the basis of their design and verification that are given in SS EN 1990. Covers requirements for resistance, serviceability, durability and fire resistance concrete structures. Does not consider other requirements e.g. concerning thermal or sound insulation. Gives a general basis for the design of structures in plain, reinforced and prestressed concrete made with normal and light weight aggregates together with specific rules for buildings.

Part 1-2 : 2008 General rules – Structural fire design
105pp S\$93.00

Used together with SS EN 1991-1-2. Applies to the design of buildings and civil engineering works in concrete. Complies with the principles and requirements for the safety and serviceability of structures, the basis of their design and verification that are given in SS EN 1990. Covers requirements for resistance, serviceability, durability and fire resistance concrete structures. Does not consider other requirements e.g. concerning thermal or sound insulation.

Deals with the design of concrete structures for the accidental situation of fire exposure. Only identifies differences from, or supplements to, normal temperature design. Also deals only with passive methods of fire protection. Does not cover active methods.

Applies to concrete structures that are required to fulfil certain functions when exposed to fire, in terms of avoiding premature collapse of the structure (load bearing function) and limiting fire spread (flame, hot gases, excessive heat) beyond designated areas (separating function).

Gives principles and application rules (see SS EN 1991-1-2) for designing structures for specified requirements in respect of the aforementioned functions and the levels of performance. It applies to structures, or parts of structures, that are within the scope of SS EN 1992-1-1. Does not cover structures with prestressing by external tendons and shell structures.

Methods are applicable to normal weight concrete up to strength class C90/105 and for lightweight concrete up to strength class LC55/60. Gives also additional and alternative rules for strength classes above C50/60.

**NA to SS EN
1992-1-1 : 2008**

Singapore National Annex to Eurocode 2 – Design of concrete structures, Part 1-1 : General rules and rules for buildings
27pp S\$27.00

Used together with SS EN 1992-1-1. Gives the Singapore decision for the nationally determined parameters for SS EN 1992-1-1 where national choice is allowed.

**NA to SS EN
1992-1-2 : 2008**

**Singapore National Annex to Eurocode 2 – Design of concrete structures, Part 1-2 :
General rules – Structural fire design**

10pp S\$15.00

Used together with SS EN 1992-1-2. Gives the Singapore decision for the nationally determined parameters for SS EN 1992-1-2 where national choice is allowed.

**SS EN 12620
: 2008**

Aggregates for concrete

59pp S\$54.00

Covers aggregates from both natural and manufactured sources, including reuse of returned concrete aggregates and recycled concrete aggregates. Includes production control by producers of aggregates and local requirements for testing scheme to be undertaken by importers of aggregates as an alternative to factory production control of aggregates.

SS EN 15167:-

Ground granulated blast furnace slag for use in concrete, mortar and grout

Part 1 : 2008 Definitions, specifications and conformity criteria

28pp S\$27.00

Specifies requirements for the chemical and physical properties as well as quality control procedures for ground granulated blastfurnace slag for use as a type II addition in the production of concrete, including in particular cast-in-situ or prefabricated structural concrete conforming to SS EN 206-1. Ground granulated blastfurnace slag conforming to this Singapore Standard may also be used in mortars and grouts.

Part 2 : 2008 Conformity evaluation

28pp S\$27.00

Specifies the scheme for the evaluation of conformity of ground granulated blastfurnace slag according to SS EN 15167-1. Provides technical rules for the production control by the manufacturer, including autocontrol testing of samples.

CODES OF PRACTICE

- CP 1 : 2001** **The use of timber in building**
90pp S\$80.00
- Applies to dimensions and species of timber suitable for various decorative purposes in buildings. Particular changes in the standard include the updating of data on timber species and classifications and the exclusion of strength requirements of various timber species, which can be referred to in SS CP 7.
- CP 2 : 2000** **Installation, operation and maintenance of electric passenger and goods lifts**
Erratum No. 1, May 2001
Amendment No. 1, January 2004
52pp S\$47.00
- Applies to the design, construction, installation, testing, inspection, operation and maintenance of permanently installed new electric lifts, with traction or positive drive, serving defined landing levels, having a car designed for the transportation of persons or persons and goods, suspended by ropes or chains and moving between guide rails inclined not more than 15° to the vertical.
- CP 3 : 1988** **Food hygiene (general)**
23pp S\$21.00
- Recommends general hygienic practices for use in the handling of food for human consumption in order to ensure a safe, sound and wholesome product. Provides a basis for establishing codes of hygienic practice for individual commodities or groups of commodities which have specific requirements relating to food hygiene.
- CP 4 : 1976** **Foundation**
Erratum No. 1, November 1978
165pp S\$140.00
- Deals with the design and construction of foundations for the normal range of buildings and engineering structures, excluding foundations for special structures. Covers shallow, deep and subaqueous foundations, cofferdams and caissons, pile foundations; gives guidance on geotechnical processes for dewatering and treatment of substrate, also tide work, underwater concreting, diving, excavation, demolition shoring and underpinning. Durability of timber, metal and concrete structures is also dealt with.
- CP 5 : 1998** **Electrical installations**
Amendment No. 1, October 2008
364pp S\$153.00
- Applies to the design, selection, erection, inspection and testing of electrical installations, other than those specifically excluded. Covers installation utilising extra-low voltage and low-voltage. Excludes systems for transmission and distribution of energy to the public; railway traction equipment, rolling stock and signalling equipment; electrical equipment of motor vehicles; equipment on board ships; equipment of mobile and fixed offshore installations; equipment of aircraft. Applies to items of electrical equipment only so far as selection and application of the equipment in the installation are concerned. Does not deal with requirements for the construction of prefabricated assemblies of electrical equipment, which are required to comply with appropriate specifications.
- CP 6 : 1978** **Building drawing**
(Withdrawn, December 2005. Partially replaced by CP 83)

- CP 7 : 1997** **Structural use of timber**
 Erratum No. 1, September 1999
 Erratum No. 2, September 2001
 103pp S\$87.00
- Provides guidance on the structural use of tropical timber in load bearing members. Includes recommendations on quality, permissible stresses and modification factors applicable to these materials when used as simple members, or as parts of built-up components, or as parts of structures incorporating other materials. Also gives recommendations on the design of nailed, screwed, bolted and connected joints, method of test to assess the adequacy of structural assemblies, and general advice on workmanship, various treatments which can be applied, inspection and maintenance.
- CP 8 : 1978** Use of manual metal-arc welding in the steel building construction
 (Withdrawn)
- CP 9 : 1988** The description and marking of articles of, or containing precious metal
 (Withdrawn)
- CP 10 : 2005** **The installation and servicing of electrical fire alarm systems**
 65pp S\$60.00
- Applies to the installation and servicing of electrical fire alarm systems in buildings. It covers alarm systems using manual call points, heat detectors, smoke detectors and flame detectors. The revision is intended to update existing requirements to bring the code in line with the latest fire alarm concepts and technologies.
- CP 11 : 2002** **Demolition**
 57pp S\$54.00
- Deals with the various aspects of demolition work. Includes basic considerations and recommended methods of demolition from roof to ground level, the treatment of basements, the removal of underground storage tanks and the use of materials and plant. Does not cover underpinning and excavation work.
- CP 12 : -** **The filling, inspection, testing and maintenance of containers for the storage and transport of compressed gases**
- Part 1 : 2000** **Seamless metal containers for gases, excluding dissolved acetylene**
 46pp S\$40.00
- Aims to introduce a common basis for apparatus, materials and techniques used for the filling, inspection, testing and maintenance of seamless metal gas containers. (Archived, July 2004)
- Part 2 : 1998** **Containers for dissolved acetylene gas**
 37pp S\$34.00
- Specifies the minimum requirements for the inspection and maintenance before, during and after filling and periodic inspection and maintenance of transportable dissolved acetylene containers with water capacity from 0.5 litre to 150 litres. (Archived, July 2004)
- CP 13 : 1999** **Mechanical ventilation and air-conditioning in buildings**
 Amendment No. 1, February 2000
 Erratum No. 1, June 2001
 54pp S\$47.00
- Provides general guidance in the design, construction, installation, testing and commissioning, maintenance and operation of mechanical ventilation and air-conditioning systems.

CP 14 : 1996	Scaffolds 103pp S\$87.00 Covers the design, construction and use of common scaffolds normally used in construction, maintenance, repair, and demolition work, except those for the support of permanent work, commonly referred to as temporary work or falsework, and suspended scaffolds. Includes prefabricated scaffolds.
CP 15 : 2004	Installation, operation and maintenance of escalators and passenger conveyors Amendment No. 1, February 2008 53pp S\$47.00 Applies to the design, construction, installation, operation, testing, inspection and maintenance of escalators and passenger conveyors.
CP 16 : 1991	Earthing 70pp S\$60.00 Gives guidance on the methods which may be adopted to earth an electrical system for the purpose of limiting the potential of current-carrying conductors forming part of the system, and non-current-carrying metalwork associated with equipment, apparatus and appliances connected to the system. Does not cover trains, ships and aircraft and is not intended to take the place of a detailed specification or to instruct untrained persons.
CP 17 : 1991	The maintenance of electrical switchgear for voltages up to and including 22kV (Withdrawn, March 2008. Replaced by SS 538 : 2008)
CP 18 : 1992	Earthworks 126pp S\$107.00 Describes methods of designing and constructing cuttings and bulk excavation. Covers embankments and areas of general regarding in cut and fill for highways, railways and airfields. Describes also methods of excavating trenches, pits and shafts in various types of ground and methods of forming temporary supports to the sides.
CP 19 : 2000	The installation and maintenance of emergency lighting and power supply systems in buildings Amendment No. 1, May 2003 Amendment No. 2, March 2005 56pp S\$47.00 Provides visual conditions necessary to alleviate panic and permit safe evacuation of the building occupants in the event of failure of the normal lighting, and at the same time prescribes requirements for the equipment and installation methods used to provide the power supply for the emergency lighting.
CP 20 : 1999	Suspended scaffolds Amendment No. 1, December 2003 Amendment No. 2, November 2004 28pp S\$27.00 Provides a set of criteria for the evaluation of the adequacy of suspended scaffolds used in Singapore. The principal function of a suspended scaffold is to provide a safe means of access for workers carrying out work at height, as well as to provide a secure foothold. Therefore, the design criteria are formulated primarily with the safety of personnel in mind.
CP 21 : 1981	Safeguarding of mechanical power presses 26pp S\$27.00 Establishes safety criteria with respect to the design, construction and application of safeguards to the points of operation of mechanical power presses. Applies only to those mechanically powered machines that shear, punch, form or assemble metal or other materials by means of tools or dies attached to slides, commonly referred to as mechanical power presses. (Confirmed 1986)

CP 22 : 1981	The painting of buildings (Withdrawn, November 2008. Replaced by SS 542 : 2008.)
CP 23 : 2000	Formwork Erratum No. 1, October 2000 34pp S\$34.00 Gives recommendations on the design, fabrication, erection and stripping of formwork and formwork for any reinforced concrete structures.
CP 24 : 1999	Energy efficiency standard for building services and equipment (Withdrawn, December 2005. Replaced by SS 530 : 2005.)
CP 25 : 1999	Emergency voice communication system in buildings 18pp S\$21.00 Applies to the planning, design, installation, maintenance and testing of emergency voice communication systems in buildings and sets out requirements for the basic system. Gives recommended procedures for the use of the system and other information of an advisory nature.
CP 26 : 1983	Drainage of roofs (Withdrawn, April 2006. Replaced by SS 525 : 2006)
CP 27 : 1999	Factory layout - Safety, health and welfare considerations Amendment No. 1, October 2001 Amendment No. 2, September 2003 44pp S\$40.00 Provides guidelines on safety, health and welfare to be taken into consideration when planning factory layout.
CP 28 : 1984	The construction, care and safe use of shears Amendment No. 1, August 1999 35pp S\$34.00 Establishes the safety criteria for the construction, care and use of shears designed primarily of metal shearing. Applies to machines constructed with a plate or cast-type ram or both, bed, table, hold-down and housings, utilizing one fixed and one moving non-rotary blade for the shearing action, and having a constant rake for any one shearing stroke. It is a useful guide (to be read in relation with the statutory requirements of the Factories Act, 1973) for all users, maintenance personnel and manufacture of shears. (Confirmed 1999)
CP 29 : 1998	Fire hydrant systems and hose reels <i>Amendment No. 1, November 1998</i> Amendment No. 2, August 2007 44pp S\$40.00 Covers the planning, installation, testing and upkeep of fire hydrant, wet and dry rising main and hose reel systems on building premises.
CP 30 : 1985	Safe loading on vehicles 41pp S\$40.00 Serves to guide transport operators, drivers and loading staff on basic safety principles that must be followed generally and the precautions to be taken in ensuring the safe carriage of the more common types of load.
CP 31 : 1996	Installation, operation, maintenance, performance and constructional requirements of mains failure standby generating systems (Withdrawn, July 2007. Replaced by SS 535 : 2007)

- CP 32 : 1985 The transportation and storage of pesticides**
11pp S\$15.00
- Outlines the requirements for the transportation and storage of pesticides. Applies to the storage of pesticides, whether open or covered, in depots, warehouses and stores. Not applicable to areas where limited materials are displayed and advertised for sale.
- CP 33 : 1996 Lightning protection**
Amendment No. 1, February 1999
Amendment No. 2, June 2004
168pp S\$140.00
- Gives guidance on the principles and practice that experience has shown to be important in protecting structures against damage from lightning. Examines the characteristics of the lightning phenomenon and indicates the statistical nature of the evidence on which assessments for protection are based. Also provides guidance on the need for protection to be provided for structures in general. Includes guidance on protection of electronic equipment against lightning.
- CP 34 : 1985 Bulk liquid oxygen storage installations on user premises**
14pp S\$15.00
- Covers the general principles recommended for bulk liquid oxygen storage installations on industrial and institutional user premises where the supply to the user premises originates outside the user premises and is delivered by mobile equipment. Covers an installation on user premises where the capacity of liquid storage is more than 500 L and less than 100 000 L.
- CP 35 : 1996 The selection, care and maintenance of steel wire ropes for hoisting**
Erratum No. 1, October 1998
66pp S\$60.00
- Covers the selection, care and maintenance of steel wire ropes for hoisting as specified in SS 297. Applies to steel wire ropes used for hoisting materials, equipment and ship cargoes. Does not apply to passenger lifts/hoists.
- CP 36 : 1987 Modular coordination for the building industry (Obsolete)
(Withdrawn, December 2004)
- CP 37 : 2000 The safe use of mobile cranes**
(Withdrawn, January 2008. Replaced by SS 536 : 2008)
- CP 38 : 1999 Artificial lighting in buildings**
73pp S\$67.00
- Gives recommendations on a range of illuminance levels for various types of buildings as well as recommended design illuminances. Also establishes the criteria for the design, installation and maintenance of artificial lighting in buildings so as to provide sufficient lighting for indoor activities thus enhancing visual comfort. The higher and lower values of illuminance levels provide flexibility for designers to cater for particular situations where they may be used to advantage.
- CP 39 : 1994 The installation of master antennae television systems for the reception of VHF and UHF sound and television broadcasting transmission operating between 5 MHz and 824 MHz**
42pp S\$40.00
- Covers recommendations for the erection, cabling, system performance, equipment specifications and safety requirements of Master Antennae Television (MATV) System. The recommendations have included as far as possible, certain aspects of Cable TV (CATV) distribution.
- CP 40 : 1987 Storage of flammable and combustible liquids
(Withdrawn, February 2007. Replaced by SS 532 : 2007)

- CP 41 : 1988** **The safe use of liquefied petroleum gas system in internal combustion engines**
 27pp S\$27.00
- Sets out requirements for liquefied petroleum gas (LPG) fuel systems for engines mounted on motor vehicles, either for the propulsion of the vehicles or for driving some auxiliary function. Provides requirements for the design and construction of component parts, and for their installation in vehicles, and for testing, commissioning, and periodic inspection of internal combustion engines of LPG system, with emphasis on safety. Applies to stationary engines where it is relevant. (Confirmed 1998) (Archived, July 2004)
- CP 42 : 1988** **Guarding and safe use of woodworking machinery**
 Amendment No. 1, August 1999
 38pp S\$34.00
- Establishes the safety criteria with respect to the design, installation and maintenance, and the operation of powered machines which cut, abrade or process products and similar materials. Includes requirements for installation, machine design, control, dust and waste collection, feeding devices and carriages, specific guarding of machines, inspection and maintenance, selection, training and supervision of operators. (Confirmed 1999)
- CP 43 : 1988** **The installation of concrete interlocking roofing tiles**
 14pp S\$15.00
- Establishes basic ground rules for the installation of concrete roofing tiles and other related components of the roofing system and for their reasonable performance under normal applications. (Archived, February 2004)
- CP 44 : 1988** Temporary electrical installations for construction and building sites
 (Withdrawn, April 2004. Replaced by CP 88 : Part 1 : 2001)
- CP 45 : 1989** **Halon 1301 fire protection systems**
 Erratum No. 1, January 1990
 95pp S\$80.00
- Specifies minimum requirements for the design, construction, installation, testing commissioning, maintenance and operation of automatic Halon 1301 fire protection systems in building. Places emphasis on system reliability and fire safety. (Archived, December 2004)
- CP 46 : 1989** **The processing and handling of quick frozen foods**
 18pp S\$21.00
- Gives guidelines for the processing and handling of quick frozen foods which have been subjected to the process of quick freezing and are offered for sale in a quick frozen state. Covers subjects related to proper processing and handling of quick frozen foods from raw materials to the ultimate consumer. Includes application of efficient freezing techniques, retention of packaging integrity, proper stock rotation and maintenance of uniform product temperature of -18°C or colder.
- CP 47 : 1989** **Temporary electrical installations for shipbuilding and shiprepairing yards**
 Amendment No. 1, November 1990
 20pp S\$21.00
- Deals with temporary electric supplies from shore fixed installations or from portable generating plants placed on board vessels to vessels under construction, during repair and conversion work. Covers all temporary installations in the building and repairing of vessels in the yards.
- CP 48 : 2005** **Water services**
 Amendment No. 1, October 2006
 56pp S\$47.00
- Deals with services for the supply of potable water to all residential, commercial and industrial buildings/premises. The scope extends from the Authority's water supply to the point where the water is drawn off for use, including storage. It does not cover all aspects of services for the supply of water for fire fighting.

- CP 49 : 1998** **Noise control on construction and demolition sites**
 Amendment No. 1, January 1999
 Amendment No. 2, April 2003
 50pp S\$47.00
- Covers the measures taken by those concerned in the development and execution of construction and demolition works to ensure that good practice is employed.
- CP 50 : 1997** Safety in welding and cutting (and other operations involving the use of heat)
 (Withdrawn, March 2005. Replaced by SS 510 : 2005)
- CP 51 : 2004** **Manufactured gas pipe installation**
 46pp S\$40.00
- Specifies the design considerations, prohibitions, material specifications, installation requirements, inspection gas pipe pressure tests, purging, admittance of gas and maintenance for the gas installation pipework, from downstream of the gas service isolation valve to the appliance connecting points. Applies only to gas installation pipework for the conveyance of town gas and natural gas at operating pressures of up to 20 kPa gauge.
- CP 52 : 2004** **Automatic fire sprinkler system**
 Erratum No. 1, June 2005
 184pp S\$140.00
- Sets requirements for the installation of automatic sprinkler system in buildings and also provides for occupancy classification.
- CP 53 : 1999** **Safe use of industrial robots**
 (ISO 10218 : 1992)
 34pp S\$34.00
- Provides guidance on the safety considerations for the design, construction, programming, operation, use, repair, and maintenance of manipulating industrial robots and robot systems. Does not apply to other types of robots although the safety principles established in this code may be utilised for these other types. As for systems comprising multiple robots and/or associated material handling equipment or mobile robots, this code may be used for the robot system portion of the equipment.
- CP 54 : 1990** **Tofu and related products**
 11pp S\$15.00
- Recommends general hygienic practices for use in the manufacturing and handling (including processing, packaging, storage, transport, distribution and sale) of tofu products in order to ensure a safe, sound and wholesome product for the benefit of the consumers.
- CP 55 : 1991** **Use and maintenance of portable fire extinguishers**
 36pp S\$34.00
- Covers minimum requirements for the selection, installation, inspection, testing and maintenance of portable fire extinguishers.
- CP 56 : 1991** **Internal plastering**
 44pp S\$40.00
- Gives recommendations on internal plastering on all types of background for use under normal conditions including ceilings and walls. Contains guidance on materials, types of background, preparation of the surface to be plastered, choice of a suitable plastering system, methods of application and maintenance.
- CP 57 : 1991** Setting out of building and civil engineering works
 (Withdrawn, March 2006. Refer to the Land Surveyors Board (LBS) Directives on Engineering and Hydrographic Survey Practices)
- CP 58 : 1992** Application, operation and maintenance of dry-type transformers
 (Withdrawn, October 2005. Replaced by SS 516 : 2005)

- CP 59 : 1998** **Construction, installation, operation and maintenance of intruder alarm systems**
64pp S\$54.00
- Sets out the general specification and requirements for the construction, installation, operation and maintenance of intruder alarm systems. Does not specify the extent or degree of protection to be provided, and does not necessarily cover all the requirements for a particular installation, for example the intruder alarm system requirements for Banks and standalone Automated Teller Machines (ATMs).
- Includes the requirement and method of installation for the detector, suggests the duration for triggered audible alarm system for both residential and non-residential areas; suggests inclusion of a strobe light to all external alarms and its colour and duration of flashing and requirement of a remote signalling device, wireless transmission and video alarm verification system.
- CP 60 : 2004** **Bunkering by bunker tankers**
49pp S\$21.00
- Specifies the procedures and requirements for the delivery of bunker by bunker tankers to vessels in the port of Singapore. Includes documentation, equipment and verification during a bunkering operation. Covers pre-delivery, actual delivery and post-delivery checks and documentation.
- Replaced by SS 600 : 2008.
- CP 61 : -** **Packaging and containers for hazardous substances**
- Part 1 : 1994 List of commonly used hazardous substances
- Part 2 : 1994 Packaging requirements for hazardous substances
- Part 3 : 1994 Tank requirement for hazardous substances
- (Withdrawn, September 2008. Refer to SS 586 : Parts 1 to 3 : 2008.)
- CP 62 : 1995** **Safe use of tower cranes**
19pp S\$21.00
- Gives general guidance to the users on the safety aspect of practice regarding siting, stability, proximity hazards, erection, dismantling, operation, control, maintenance, inspection and repair of tower cranes.
- CP 63 : 1996** **The lifting of persons in work platforms suspended from cranes**
17pp S\$21.00
- Applies to the design, construction, installation and use of work platforms suspended from cranes. Excludes work platforms which are attached to and form an integral part of a crane. Universal piling-rigs, mobile cranes operating on-board barges and floating cranes are disallowed from lifting persons in suspending work platforms. (Confirmed 2005)
- CP 64 : 1996** **Mee and kway teow products**
14pp S\$15.00 (English)
20pp S\$21.00 (Chinese)
- Specifies the general hygienic practices for use in the manufacturing and handling (including processing, packaging, storage, transport, distribution and sale) of mee and kway teow products for human consumption to ensure a safe, sound and wholesome product for the benefit of the consumer. Introduces handling practices and technical requirements in mee and kway teow products. Also describes the different categories of mee and kway teow products.

- CP 65 : - Structural use of concrete**
- Part 1 : 1999 Design and construction**
 Erratum No. 1, September 2000
 198pp S\$140.00
- Gives recommendations for the structural use of concrete in buildings and structures, excluding bridges, water-retaining structures and structural concrete made with high alumina cement.
- Part 2 : 1996 Special circumstances**
 Erratum No. 1, September 2000
 73pp S\$67.00
- Gives recommendations for the design and construction of structural concrete in special circumstances which are not covered in Part 1 of the code. (Confirmed 1999)
- CP 66 : 1997 Pre-cooked chilled food**
 14pp S\$15.00
- Specifies processing and good handling practices to ensure food safety and the production of high quality pre-cooked chilled food. Intended to provide guidelines for the processing and handling of pre-cooked chilled food ready for consumption with or without re-heating. Includes the application of HACCP principles as described in SS 444.
- CP 67 : - Cleaning and surface repair of buildings**
- Part 1 : 1997 Natural stone, cast stone and clay brick masonry
 (Withdrawn, March 2005. Replaced by SS 509 : Part 1 : 2005)
- Part 2 : 1999 Concrete and concrete masonry
 (Withdrawn, March 2005. Replaced by SS 509 : Part 2 : 2005)
- CP 68 : 1997 Ceramic wall and floor tiling**
 36pp S\$34.00
- Gives recommendations on basic workmanship for internal and external wall and floor tiling on building sites. Applies to the in-situ laying of ceramic wall and floor tile. Also applies to the installation of mosaic tiles. Does not cover the design aspects of wall and floor tiling.
- CP 69 : 1998 Microfilming of documents on 16 mm black and white, silver-gelatin type microfilm/planetary and rotary camera filming – Operating procedures**
 (Withdrawn, March 2006. Replaced by SS 520 : 2006)
- CP 70 : 1998 Microfilming of technical drawings and other drawing office documents on 35 mm black and white, silver-gelatin type microfilm/planetary camera filming – Operating procedures**
 (Withdrawn, March 2006. Replaced by SS 521 : 2006)
- CP 71 : 1998 Quality control inspection of 16 mm and 35 mm black and white, silver-gelatin type microfilm**
 (Withdrawn, March 2006. Replaced by SS 522 : 2006)
- CP 72 : 1998 Microfilming of newspapers on 35 mm black and white, silver-gelatin type microfilm/planetary camera filming – Operating procedures**
 (Withdrawn, March 2006. Replaced by SS 523 : 2006)
- CP 73 : 1998 Design of concrete structures for retaining aqueous liquids**
 46pp S\$40.00
- Provides recommendations for the design and construction of normal reinforced and prestressed concrete structures used for the containment or exclusion of aqueous liquids. Also covers the design of concrete basements to resist water penetration. Does not cover dams, pipes, pipelines or lined structures.

- CP 74 : 1998** **Selection, use, and maintenance of respiratory protective devices**
54pp S\$47.00
- Sets forth accepted practices for respirator users; provides information and guidance on the selection, use and maintenance of respirators and contains recommendations for establishing respirator protection programmes. Covers the use of respirators to protect against the inhalation of contaminants and against oxygen-deficient atmospheres in the workplace.
- Does not cover underwater breathing devices, the use of respirators in aircrafts, the use of respirators under military combat conditions and the use of life support respirators for medical or resuscitation purposes.
- Contains requirements and recommendations on respirator selection, respirator fit, training, medical fitness, respirator maintenance and breathing air quality.
- CP 75 : 1998** **Gas cylinders – Procedures for change of gas services**
(ISO 11621 : 1997)
18pp S\$21.00
- Applies to seamless steel, aluminium alloy and welded steel refillable cylinders of all sizes, including large cylinders (of water capacity greater than 150 litres). Provides general requirements and procedures to be considered whenever a cylinder is being transferred from one gas service to another for permanent and liquefied gases. Does not apply to cylinders for dissolved acetylene, radioactive, toxic, corrosive and pyrophoric gases. Serves as a useful reference in the course of an investigation into an accident involving cylinders. (Archived, July 2004)
- CP 76 : 1999** **The selection, use, care and maintenance of hearing protectors**
Erratum No. 1, May 1999
Erratum No. 2, November 2002
42pp S\$40.00
- Gives recommendations for the selection, use, care and maintenance of hearing protective devices.
- CP 77 : 1999** **Bunker surveying**
37pp S\$34.00
- Describes a method for specifying practical procedures for bunker surveying on board bunker tankers and vessels.
- Specifies the work of bunker surveyors for a bunkering operation by bunker barges / tankers to vessels . Sets out the bunker survey procedures, the documentation and the equipment requirement for proper bunker surveying.
- Replaced by SS 600 : 2008.
- CP 78 : 1999** The distribution of hazardous chemicals
(Withdrawn, September 2008. Refer to SS 586 : Parts 1 to 3 : 2008.)
- CP 79 : 1999** **Safety management system for construction worksites**
Erratum No. 1, November 1999
25pp S\$27.00
- Represents a standard for good practice for safety management at construction worksites. Covers the 13 elements in the Factories (Building Operations and Works of Engineering Construction) (Amendment) Regulations 1994 and an additional element on Occupational Health. Forms a basis for audit and review of the safety management system.
- CP 80 : 1999** **Classification of construction cost information**
47pp S\$40.00
- Defines classification systems for building elements and trades/works sections. Develops a standard classification system for the construction industry to ensure that cost information is structured and stored in a way that is consistent and reliable within and between the different disciplines so as to reduce any duplication of work.

- CP 81 : 1999 Precast concrete slab and wall panels**
107pp S\$93.00
- Gives recommendations for the design, manufacture, handling, transportation, erection and acceptance of precast concrete slabs (with or without prestress), load bearing and non-load bearing wall panels.
- CP 82 : 1999 Waterproofing of reinforced concrete buildings**
49pp S\$47.00
- Covers systems commonly used for the waterproofing of reinforced concrete buildings. Contains sections on waterproofing of basement, floor, wall, roof and precast concrete element. Provides guidance on waterproofing against water with or without hydrostatic pressure and against moisture from the ground.
- CP 83 : - Construction computer-aided design (CAD)**
- Part 1 : 2004 Organisation and naming of CAD layers**
30pp S\$27.00
- Establishes the general principles of layer structure within construction computer-aided design (CAD) files. Covers the organisation and allocation of layers that are used in CAD files for construction projects, and is intended to be used for communication and management purposes. Applies to all parties involved in preparing and using technical documentation on CAD systems. Although these principles are primarily for users, CAD system developers are expected to provide software tools capable of implementing and supporting this code.
- Part 2 : 2000 CAD symbols**
Amendment No. 1, August 2004
87pp S\$73.00
- Recommends a common set of symbols to be used by all parties in the building industry in the preparation of drawings. Provides a standard set of 2D graphical symbols to represent entities of building components for the building industry. Facilitates common understanding and interpretation of information in drawings by different users of the building industry and easy and efficient exchange of information.
- Part 3 : 2001 Organisation and naming of CAD files**
21pp S\$21.00
- Establishes the general principles and formats for the naming of CAD files. Enhances uniformity in the naming of CAD files for the construction industry in Singapore. Facilitates communication and management of CAD files by representing important attributes in filenames and/or other forms of documentation.
- Part 4 : 2001 CAD drafting conventions**
37pp S\$34.00
- Recommends a set of drawing conventions to be used by all parties in the building industry in the preparation of drawings. Provides a set of common drafting conventions for the building industry. Facilitates common understanding and interpretation of information in drawing by different users in the building industry and quick and efficient exchange of information.
- Part 5 : 2001 Colour and linetype**
21pp S\$21.00
- Establishes the general principles and formats for usage of colour and linetype for construction computer-aided design (CAD) files.

- CP 84 : 2000** **Entry into and safe working in confined spaces**
 Amendment No. 1, May 2005
 19pp S\$21.00
- Provides guidelines on the safety and health control measures relating to entry into and working in confined spaces at normal atmospheric pressure. Also covers the procedures for applying and issuing the permit-to-work for confined space entry.
- CP 85 : 2000** **Cylinders in bundles for permanent and liquefiable gases (excluding acetylene) – Inspection at time of filling**
 (ISO 11755 : 1996)
 14pp S\$15.00
- Applies to single gas cylinders of water capacity up to 150 litres manifolded to a bundle. Specifies the minimum requirements for inspection at the time of filling. Also applies to cylinders for permanent and liquefied gases but does not apply to cylinder bundles for acetylene gas.
- Does not deal with inspecting or testing for internal cylinder contamination, nor bundles permanently fixed on trailers and rails cars. (Archived, July 2004)
- CP 86 : 2000** **Safe use of lasers in the building and construction industry**
 21pp S\$21.00
- Sets out safety requirements for the use of lasers for alignment, levelling, control and survey tasks in the building and construction industry. Does not cover the design and manufacture of lasers, nor the use of lasers in other applications.
- CP 87 : 2001** **Illumination in industrial premises**
 62pp S\$54.00
- Provides guidelines on the provision of appropriate lighting for optimum visual performance in indoor industrial premises. Covers the design, installation, maintenance and improvement of the lighting systems to ensure safety, comfort, well-being and productivity of the workers. Maintenance illuminance is recommended for different types of industrial areas, tasks and processes.
- CP 88 : -** **Temporary electrical installations**
- Part 1 : 2001** **Construction and building sites**
 Erratum No. 1, May 2001
 Amendment No. 1, April 2007
 40pp S\$34.00
- Deals with temporary electrical installations for construction and building sites. Also deals principally with temporary electrical installations for building operation and work of engineering supply during the execution of new building construction; repair, alteration, extension or demolition of buildings; engineering construction; earthworks and other similar works.
- Does not apply to installations in construction site offices, meeting rooms, canteens, dormitories, toilets, etc., where the general requirements in Singapore Standard CP 5 shall apply.
- Although some temporary installations at these sites may receive supplies at voltages higher than 1000 V, such parts of the installations are outside the scope of this code. Also does not cover those aspects of installations in a compressed air environment and potentially explosive atmospheres.
- Part 2 : 2001** **Festive lighting, trade-fairs, mini-fairs and exhibition sites**
 30pp S\$27.00
- Deals principally with temporary electrical installations that are installed outdoor for festive lighting, trade-fairs, mini-fairs and exhibition sites. Specifies the minimum electrical installation requirements to facilitate the safe design, installation and operation of mobile and temporarily installed electrical machines and structures, which incorporate electrical equipment. The machines and structures are intended to be installed repeatedly, without

loss of safety, temporarily or permanently, at fair/exhibition sites, amusement parks or any other similar sites.

Does not cover decorative lighting within domestic premises as the requirement is provided by Singapore Standard CP 5.

Part 3 : 2004 Shipbuilding and ship-repairing yards
40pp S\$34.00

Deals principally with the provision of temporary electricity supply from the shore fixed installations or from mobile generating sets to vessel(s) under construction and during repair and conversion work. Covers all temporary electrical installations in the building and repairing of vessels in the yards. Applies to electrical installations set up for the provision of electricity supply during the execution of the works in:

- (a) shipbuilding and repairing yards;
- (b) vessels moored alongside the yards; and
- (c) confined spaces or locations or other similar situations on board vessels.

Does not cover:

- (a) electricity supply for the vessel's electrical installation and any such part of such installation set up for the use by the crew on board vessels;
- (b) installations operating at voltages exceeding low voltage.

CP 89 : 2001 Metal roofing
50pp S\$47.00

Provides guidelines, information and recommendations to the specifier and end user on the design, performance, installation, transportation and handling of metal roofing material. Covers the use of galvanised, zinc/aluminium and pre-painted profiles metal conforming to SS 370 : 1994 and other trapezoidal and trough section roof profiles not specifically covered by any appropriate standards. To be read in conjunction with the manufacturers' technical product literature.

CP 90 : 2001 Design and installation of partition walls
47pp S\$40.00

Gives recommendations for the design and installation of partition walls. Also gives the functions and properties of partition walls. Includes recommendations for ensuring that the design is realised on site and maintained after completion.

CP 91 : 2001 Lockout procedure
19pp S\$21.00

Covers the servicing or maintenance of machines where any unexpected energisation or start up of the machines, or release of stored energy could cause injury to employees. Establishes minimum performance requirements for the control of such hazardous energy.

CP 92 : 2002 Manual handling
43pp S\$40.00

Provides information and guidance for the identification, assessment and control of risks arising from manual handling activities in workplaces and on the planning and implementation of an ergonomics programme for manual handling operations.

CP 93 : 2002 Classification of construction resources information
(CSI/CSC Masterformat : Master list of numbers and titles for the construction industry, 1995 edition)
Amendment No. 1, May 2002
317pp GrY

Presents a uniform system for classifying information relating to construction products, materials, services and machinery. Contains a listing of numbers and titles for organising information about construction resources, more specifically, construction products and activities describing the physical aspects of construction.

- CP 94 : 2002** **Installation of clay roofing tiles**
19pp S\$21.00
- Establishes the basic rules for the installation of clay roofing tiles that apply only to roof with a pitch of 15 degree or greater, except for 'V' tile in conservation project.
- CP 95 : 2002** **Cold chain management – Milk and dairy products**
39pp S\$34.00
- Intended for the application and observance of temperature controls in each sector of the cold chain for milk and dairy products. Sets out recommendations and guidelines for the proper management of milk and dairy products during the production, storage, transportation, manufacturing, distribution, handling, treatment, at point of sale, and thereafter purchase by consumers. Meant for chilled milk and dairy products, frozen dairy product and fermented/acidic/cultured milk or drink.
- CP 96 : 2002** **Curtain walls**
56pp S\$47.00
- Specifies the criteria for performance and evaluation and gives good practice guidelines for a curtain wall system. (Confirmed, November 2007)
- CP 97 : -** **Construction electronic measurement standard (CEMS)**
- Part 1 : 2002** **Standard method of measurement (SMM) for building works**
165pp S\$84.00
- Fulfills a bridging role by adapting current practices as well as defining the standards for future AQTS applications. As such, the items in the CEMS are both general and specific in terms of elemental breakdowns, work sections and measured items. Provides attributes and operation templates for Object Oriented Modelling (OOM) but is by no means exhaustive as there are multiple permutations and terminologies for a single object model.
- Part 2 : 2004** **Construction electronic measurement standard (CEMS) - Standard method of measurement for mechanical and electrical works**
111pp S\$93.00
- Comprises guidance notes, general principles and measurement rules for items related to M & E works. Fulfills a bridging role by adapting current practices as well as defining the standards for future Automatic Quantities Taking-off System (AQTS) applications. Provides attributes and operation templates for Object Oriented Modelling (OOM) but is by no means exhaustive as there are multiple permutations and terminologies for a single object model.
- CP 98 : 2003** Preparation and use of material safety data sheets (MSDS)
(Withdrawn, June 2008. Replaced by SS 586 : Part 3 : 2008)
- CP 99 : 2003** **Industrial noise control**
Erratum No. 1, April 2004
91pp S\$80.00
- Provides information on industrial noise control by engineering means such as barriers, enclosures, absorbers, damping materials, silencers and isolators. Complements the Factories (Noise) Regulations in recommending measures to control noise and prevent noise-induced deafness. With reference to proper noise criteria, applies to all industrial workplaces except for construction and demolition sites which have been covered by CP 49 - 'Code of practice for noise control on construction and demolition sites'. Excludes community noise, transportation noise, construction noise and noise from public entertainment.

CP 100 : 2004**Hazardous waste management**

33pp S\$34.00

Sets out the procedures and practices on safe management and handling of hazardous wastes generated from industrial activities. Also sets out the key requirements for collection, transportation, storage, treatment and disposal of hazardous industrial wastes. Does not apply to bio-hazardous and radioactive wastes.

CP 101 : 2004**Powered counterbalance forklifts**

25pp S\$27.00

Specifies the safety requirements for the manufacture, application, operation and maintenance of powered counterbalance forklifts. Lays down the responsibilities of the various parties involved.

Does not include industrial trucks that do not apply lifting with fork arms and the use of counterweights for balance.

CP 102 : 2004**Temporary housing quarters on construction sites**

14pp S\$15.00

Gives recommendations on the design, construction, installation and maintenance of temporary housing quarters on construction sites.

**SINGAPORE STANDARDS ADOPTED
DIRECTLY FROM ISO/IEC STANDARDS**

SS IEC 60326 : -	Printed boards
	Part 1 : 1984 *General information for the specification writer (Adopted in 1991) (Withdrawn)
	Part 2 : 1990 <i>See SS 354 : Part 2 : 1991</i>
	Part 3 : 1991 <i>See SS 354 : Part 3 : 1994</i>
	Part 4 : 1980 *Single and double sided printed boards with plain holes (Adopted in 1993) (Withdrawn, October 2003. Refer directly to relevant parts of IEC 60326)
	Part 5 : 1980 *Single and double sided printed boards with plated-through holes (Adopted in 1993) (Withdrawn, October 2003. Refer directly to relevant parts of IEC 60326)
	Part 6 : 1980 *Multilayer printed boards (Adopted in 1993) (Withdrawn)
	Part 10 : 1991 *Flex-rigid double-sided printed boards with through connections (Adopted in 1995) ((Withdrawn, October 2003. Refer directly to relevant parts of IEC 60326)
	Part 12 : 1992 *Mass lamination panels (semi-manufactured multilayer printed boards) (Adopted in 1996) (Withdrawn, October 2003. Refer directly to relevant parts of IEC 60326)
SS IEC 60384 : -	Aluminium electrolytic capacitors (Withdrawn)
	Part 4 : 1985 *Specification for aluminium electrolytic capacitors with solid and non-solid electrolyte
	Part 4-1 : 1985 *Blank detail specification: Aluminium electrolytic capacitors with non-solid electrolyte - Assessment level E
	Part 4-2 : 1985 *Blank detail specification : Aluminium electrolytic capacitors with solid electrolyte - Assessment level E
SS IEC 60529 : 1989	Degrees of protection provided by enclosures (IP Code) (Adopted in 1995) Amendment No. 1, May 2000 45pp S\$40.00
	Applies to the classification of degrees of protection provided by enclosures for electrical equipment with a rated voltage not exceeding 72.5 kV.
SS IEC 60925 : 1989	*D.C. supplied electronic ballasts for tubular fluorescent lamps - Performance requirements (Adopted in 1995) (Withdrawn, August 2003)
SS IEC 61032 : 1990	*Test probes to verify protection by enclosures (Withdrawn, replaced by SS 101 : 1999)

SS IEC CISPR 11 : 1997	<p>*Industrial, scientific and medical (ISM) radio-frequency equipment – Electromagnetic disturbance characteristics – Limits and methods of measurement (Adopted in 2003) (Withdrawn, January 2005. Refer directly to IEC CISPR 11 : 2004).</p>
SS IEC CISPR 13 : 1990	<p>*Limits and methods of measurement of radio interference characteristics of sound and television broadcast receivers and associated equipment (Adopted in 1996) (Withdrawn, replaced by SS 465 : 1999)</p>
SS IEC CISPR 14 : 1993	<p>*Limits and methods of measurement of radio disturbance characteristics of electrical motor-operated and thermal appliances for household and similar purposes, electric tools and electric apparatus (Adopted in 1996) (Withdrawn, March 2004. Refer directly to IEC CISPR 14-1 : 2002 and IEC CISPR 14-2 : 2001)</p>
SS IEC CISPR 19 : 1983	<p>*Guidance on the use of the substitution method for measurements of radiation from microwave ovens for frequencies above 1 GHz (Adopted in 1996) (Withdrawn, March 2004. Refer directly to IEC CISPR 19 : 1983)</p>
SS IEC CISPR 22 : 1997	<p>*Information technology equipment - radio disturbance characteristics - Limits and methods of measurement (Adopted in 2003) (Withdrawn, May 2007. Refer directly to IEC CISPR 22 : 2006)</p>
SS ISO 37 : 1994	<p>*Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain properties (Adopted in 1995) 12pp GrY</p> <p>Describes a method for the determination of the tensile stress-strain properties for vulcanized and thermoplastic rubbers.</p>
SS ISO 48 : 1994	<p>*Rubber, vulcanized or thermoplastic - Determination of hardness (hardness between 10 IRHD and 100 IRHD) (Adopted in 1995) 14pp GrY</p> <p>Specifies four methods for the determination of the hardness of vulcanized or thermoplastic rubbers on flat surfaces, and another four methods for the determination of apparent hardness of curved surfaces.</p>
SS ISO 128 : 1982	<p>*Technical drawings - General principles of presentation (Adopted in 1983) (Withdrawn, May 2008. Refer directly to the latest editions of the ISO standards)</p>
SS ISO 188 : 1982	<p>*Rubber, vulcanized - Accelerated ageing or heat-resistance tests (Adopted in 1996) 4pp GrY</p> <p>Specifies two types of accelerated ageing or heat-resistance tests on vulcanized rubbers, namely air oven methods (using either a cell-type oven or a normal oven) and oxygen pressure method.</p>
SS ISO 406 : 1987	<p>*Technical drawings - Tolerancing of linear and angular dimension (Adopted in 1994) (Withdrawn, May 2008. Refer directly to ISO standards)</p>

SS ISO 815 : 1991	<p>*Rubber, vulcanized or thermoplastic - Determination of compression set at ambient, elevated or low temperatures (Adopted in 1995) 10pp GrY</p> <p>Specifies methods for the determination of compressed set characteristics of vulcanized and thermoplastic rubbers at ambient, elevated or low temperatures. The methods are intended to measure the ability of rubbers of hardness within the range 10 IRHD to 95 IRHD.</p>
SS ISO 1000 : 1992	<p>SI units and recommendations for the use of their multiples and of certain other units (Adopted in 1994) 28pp S\$27.00</p> <p>Describes the international system of units. Recommends selected decimal multiples and sub-multiples of SI units for general use and gives certain other units which may be used with the international system of units. Quotes the definitions of the SI base units.</p>
SS ISO 1101 : 1983	<p>*Technical drawings - Geometrical tolerancing - Tolerancing of form, orientation, location and run-out - Generalities, definitions, symbols, indications on drawings (Adopted in 1984) (Withdrawn, May 2008. Refer directly to the latest editions of the ISO standards)</p>
SS ISO 1248 : 1974	<p>*Iron oxide pigments for paints (Adopted in 1996) 6pp GrY</p> <p>Specifies the requirements and corresponding test methods for all manufactured and natural iron oxide pigments, including micaceous iron oxide pigments and rapid dispersion pigments, in dry form, suitable for use in paints. (Confirmed 2003) <i>Formerly SS 92 : 1981</i></p>
SS ISO 1431-1 : 1989	<p>*Rubber, vulcanized or thermoplastic - Resistance to ozone cracking - Static strain test (Adopted in 1995) 7pp GrY</p> <p>Specifies the method for the determination of vulcanized or thermoplastic rubbers to cracking when exposed, under static tensile strain, to air containing a definite concentration of ozone and at a definite temperature in circumstances that exclude the effects of direct light.</p>
SS ISO 1660 : 1982	<p>*Technical drawings - Dimensioning and tolerancing of profiles (Adopted in 1984) (Withdrawn, replaced by SS 257 : Part 3 : 1996)</p>
SS ISO 1817 : 1985	<p>*Rubber, vulcanized - Determination of the effect of liquids (Adopted in 1995) 11pp GrY</p> <p>Describes methods of evaluating the resistance of vulcanized rubbers to the action of liquids by measurement of properties of the rubbers before and after immersion in selected test liquids. The liquids considered include petroleum derivatives, organic solvents and chemical reagents.</p>
SS ISO 2162 : 1973	<p>*Technical drawings- Representation of springs (Adopted in 1978) (Withdrawn, May 2008. Refer directly to the latest editions of the ISO standards)</p>
SS ISO 2203 : 1973	<p>*Technical drawings - Conventional representation of gears (Adopted in 1978) (Withdrawn, May 2008. Refer directly to the latest editions of the ISO standards)</p>

SS ISO 2553 : 1992	*Welded, brazed and soldered joints - Symbolic representation on drawings (Adopted in 1996) (Withdrawn, May 2008. Refer directly to ISO standards)
SS ISO 2816 : 1973	*Fundamental characteristics of a system of shoe sizing to be known as Mondopoint (Adopted in 1979) (Withdrawn)
SS ISO 2859 : 1974	Sampling procedures and tables for inspection by attributes (Adopted in 1980) (Withdrawn)
SS ISO 3040 : 1990	*Technical drawings - Dimensioning and tolerancing - Cones (Adopted in 1996) (Withdrawn, May 2008. Refer directly to ISO standards)
SS ISO 3098/1 : 1974	*Technical drawings - Lettering, currently used characters (Adopted in 1978) (Withdrawn, May 2008. Refer directly to the latest editions of the ISO standards)
SS ISO 3166 : 1981	*Codes for the representation of names of countries (Adopted in 1980) (Withdrawn)
SS ISO 3262 : 1975	*Extenders for paints (Adopted in 1996) (Withdrawn, October 2003. Refer directly to ISO 3262 series of standards)
SS ISO 3355 : 1975	*Shoe sizes - System of length grading (for use in the Mondopoint system) (Adopted in 1979) (Withdrawn)
SS ISO 3384 : 1991	*Rubber, vulcanized or thermoplastic - Determination of stress relaxation in compression at ambient and at elevated temperatures (Adopted in 1995) 6pp GrY Specifies the methods for determining the decrease in counterforce exerted by a test piece of vulcanized or thermoplastic rubber which has been compressed to constant deformation and maintained thus at a pre-determined test temperature.
SS ISO 3844 : 1977	*Shoe sizes - Method of marking (Adopted in 1979) (Withdrawn)
SS ISO 4074 : -	Specification for rubber condoms Part 9 : 1980 *Determination of tensile properties (Adopted in 1993) (Withdrawn) Part 10 : 1990 *Packaging and labelling - Condoms in consumer packages (Adopted in 1993) (Withdrawn, September 2003. Refer directly to ISO 4074 : 2002)
SS ISO 4217 : 1981	*Codes for the representation of currencies and funds (Adopted in 1984) (Withdrawn, December 2007. Refer directly to ISO 4217 : 2001)
SS ISO 4416 : 1981	*Size designation of clothes - Women's and girls' underwear, nightwear, foundation garment and shirts (Adopted in 1982) (Withdrawn)

SS ISO 6411 : 1982	<p>*Technical drawings - Simplified representation of centre holes. (Adopted in 1983) (Withdrawn, May 2008. Refer directly to the latest editions of the ISO standards)</p>
SS ISO 7816-2 : 1988	<p>Identification cards - Integrated circuit(s) cards with contacts – Dimensions and location of the contacts (Adopted in 1994) 12pp S\$15.00</p> <p>Used in conjunction with SS 372 : Part 1. Specifies the dimensions, locations and assignment for each of the contacts on integrated circuit(s) cards of an ID-1 card type. (Confirmed 2000)</p>
SS ISO 8630 : -	<p>Information processing - Data interchange on 130 mm (5.25 in) flexible disk cartridges using modified frequency modulation recording at 13 262 ftprad, on 80 tracks on each side</p> <p>Part 1 : 1987 *Dimensional, physical and magnetic characteristics (Adopted in 1996) (Withdrawn, March 2003. Refer directly to ISO 8630-1 : 1987)</p> <p>Part 2 : 1987 *Track format A for 77 tracks (Adopted in 1996) (Withdrawn, March 2003. Refer directly to ISO 8630-2 : 1987)</p> <p>Part 3 : 1987 *Track format B for 80 tracks (Adopted in 1996) (Withdrawn, March 2003. Refer directly to ISO 8630-3 : 1987)</p>
SS ISO 8860 : -	<p>Information processing - Data interchange on 90 mm (3.5 in) flexible disk cartridges using modified frequency modulation recording at 7 958 ftprad on 80 tracks on each side</p> <p>Part 1 : 1987 *Dimensional, physical and magnetic characteristics (Adopted in 1996) (Withdrawn, March 2003. Refer directly to ISO 8860-1 : 1987)</p> <p>Part 2 : 1987 *Track format (Adopted in 1996) (Withdrawn, March 2003. Refer directly to ISO 8860-2 : 1987)</p>
SS ISO 9000 : 2005	<p>Quality management systems – Fundamentals and vocabulary (Adopted in 2005) 39pp S\$34.00</p> <p>Describes fundamentals of quality management systems, which form the subject of the ISO 9000 family, and defines related terms.</p>
SS ISO 9000-1 : 1994	<p>Quality management and quality assurance standards</p> <p>Part 1 : 1994 Guidelines for selection and use (Adopted in 1994) (Withdrawn, March 2004)</p>
SS ISO 9000-2 : 1997	<p>Quality management and quality assurance standards</p> <p>Part 2 : 1997 Generic guidelines for the application of ISO 9001, ISO 9002 and ISO 9003 (Adopted in 1998) (Withdrawn, March 2004)</p>

SS ISO 9000-3 : 1997	<p>Quality management and quality assurance standards</p> <p>Part 3 : 1997 Guidelines for the application of ISO 9001 : 1994 to the development, supply, installation and maintenance of computer software (Adopted in 1998) (Withdrawn, March 2004)</p>
SS ISO 9001 : 2008	<p>Quality management systems – Requirements 38pp S\$34.00</p> <p>Specifies requirements for a quality management system where an organisation: a) needs to demonstrate its ability to consistently provide product that meets customer and applicable statutory and regulatory requirements, and b) aims to enhance customer satisfaction through the effective application of the system, including processes for continual improvement of the system and the assurance of conformity to customer and applicable statutory and regulatory requirements.</p>
SS ISO 9002 : 1994	<p>Quality systems - Specification for quality assurance in production, installation and servicing (Adopted in 1994) (Withdrawn, March 2004)</p>
SS ISO 9003 : 1994	<p>Quality systems - Specification for quality assurance in final inspection and test (Adopted in 1994) (Withdrawn, March 2004)</p>
SS ISO 9004 : 2000	<p>Quality management system – Guidelines for performance improvements (Adopted in 2000) 66pp S\$80.00</p> <p>SS ISO 9001 : 2000 and SS ISO 9004 : 2000 now form a consistent pair of standards on quality management. SS ISO 9001 aim to give quality assurance of product and to enhance customer satisfaction, while SS ISO 9004 uses broader perspective of quality management to give guidance for performance improvement.</p> <p>Provides guidelines beyond the requirements given in ISO 9001 in order to consider both the effectiveness and efficiency of a quality management system, and consequently the potential for improvement of the performance of an organisation. When compared to ISO 9001, the objectives of customer satisfaction and product quality are extended to include the satisfaction of interested parties and the performance of the organisation.</p>
SS ISO 9004-1 : 1994	<p>Quality management and quality system elements</p> <p>Part 1 : 1994 Guidelines (Adopted in 1994) (Withdrawn, March 2004)</p>
SS ISO 9051 : 1990	<p>*Glass in building - Glazed assemblies containing fire-resistant transparent or translucent glass, for use in building (Adopted in 1994) (Withdrawn, December 2003. Refer directly to ISO 9051 : 2001)</p>
SS ISO 9453 : 1990	<p>Soft solder alloys - Chemical compositions and forms (Adopted in 1994) 9pp S\$15.00</p> <p>Specifies the requirements for chemical compositions for the following families of soft solder alloys: tin-lead, with and without antimony; tin-silver, with and without lead; tin-copper, with and without lead; tin-antimony; tin-lead-bismuth; bismuth-tin; tin-lead-cadmium; tin-indium; lead-silver, with and without tin.</p>

SS ISO/IEC 9529 : -	<p>Information processing systems - Data interchange on 90 mm (3.5 in) flexible disk cartridges using modified frequency modulation recording at 15 916 ftrpad, on 80 tracks on each side</p> <p>Part 1 : 1989 *Dimensional, physical and magnetic characteristics (Adopted in 1996) (Withdrawn, March 2003. Refer directly to ISO/IEC 9529-1 : 1989)</p> <p>Part 2 : 1989 *Track format (Adopted in 1996) (Withdrawn, March 2003. Refer directly to ISO/IEC 9529-1 : 1989)</p>
SS ISO 10564 : 1993	<p>Soldering and brazing materials - Methods for the sampling of soft solders for analysis (Adopted in 1994) 8pp S\$11.00</p> <p>Specifies methods for sampling a consignment of soft solder which is sub-divided into batches and the procedures for the preparation of an analysis sample representative of each batch.</p>
SS ISO 11530 : 1993	<p>*Road vehicles - Hydraulic jacks (Adopted in 1996) 3pp GrY</p> <p>Specifies design and safety requirements, and test methods for hydraulic jacks for road vehicles, used for changing wheels and putting on chains. Applies to hydraulic jacks which are primarily designed for use on vehicles with a maximum total calculated mass over 3.5 t. They may, however, be used on smaller vehicles (e.g. passenger cars which have jacking points specifically designed for the use of such jacks). (Archived, March 2004)</p>
SS ISO 14001 : 2004	<p>Environmental management systems – Requirements with guidance for use (Adopted in 2004) Erratum No. 1, March 2005 33pp S\$34.00</p> <p>Specifies requirements for an environmental management system to enable an organisation to develop and implement a policy and objectives which take into account legal requirements and other requirements to which the organisation subscribes, and information about significant environmental aspects. Applies to those environmental aspects that the organisation identifies as those which it can control and those which it can influence. Does not itself state specific environmental performance criteria. Annex B identifies the broad technical correspondences between this standard and ISO 9001 : 2000 and vice versa.</p>
SS ISO 14004 : 2004	<p>Environmental management systems - General guidelines on principles, systems and supporting techniques (Adopted in 2004) Erratum No. 1, March 2005 49pp S\$47.00</p> <p>Provides guidance on the establishment, implementation, maintenance and improvement of an environmental management system and its coordination with other management systems. Applicable to any organisation, regardless of its size, type, location or level of maturity. Guidelines in this standard are consistent with the ISO 14001 environmental management system model but they are not intended to provide interpretations of the requirements of ISO 14001.</p>
SS ISO 14010 : 1996	<p>Guidelines for environmental auditing - General principles (Adopted in 1996) (Withdrawn, February 2003. Replaced by SS ISO 19011 : 2002)</p>

SS ISO 14011 : 1996	<p>Guidelines for environmental auditing - Audit procedures - Auditing of environmental management systems (Adopted in 1996) (Withdrawn, February 2003. Replaced by SS ISO 19011 : 2002)</p>
SS ISO 14012 : 1996	<p>Guidelines for environmental auditing - Qualification criteria for environmental auditors (Adopted in 1996) (Withdrawn, February 2003. Replaced by SS ISO 19011 : 2002)</p>
SS ISO 19011 : 2002	<p>Guidelines for quality and/or environmental management systems auditing (Adopted in 2002) 39pp S\$34.00</p> <p>Provides guidance on the principles of auditing, managing audit programmes, conducting quality management system audits and environmental management system audits, as well as guidance on the competence of quality and environmental management system auditors.</p> <p>Applicable to all organizations needing to conduct internal or external audits of quality and/or environmental management systems or to manage an audit programme. Application of this standard to other types of audit is possible in principle, provided that special consideration is paid to identifying the competence needed by the audit team members in such cases.</p>

TECHNICAL REFERENCES

TR 1 : 1999	Cleaning service industry – Cleaning performance for commercial premises 33pp S\$30.60 Specifies the quality of cleaning services to performance standards. Applies to the quality of cleaning services in commercial premises.
TR 2 : 2000	Cold chain management – Milk and dairy products (Withdrawn. Replaced by CP 95 : 2002)
TR 3 : 2001	Performance of managing agents for private sector residential properties (Withdrawn, November 2006. Replaced by SS 519 : 2006)
TR 4 : 2001	Exhibition management services (EMS) industry – Exhibition content (Withdrawn, December 2003. Replaced by SS 505 : 2003)
TR 5 : 2001	Exhibition management services (EMS) industry – Safety, health and technical operational efficiency (Withdrawn, March 2008. Replaced by SS 539 : 2008)
TR 6 : 2001	Pipeline service corridors – Design, construction and operation of pipeline service corridors in Singapore (Withdrawn, April 2005. Replaced by SS 512 : 2005)
TR 7 : -	Quality system for medical device components Part 1 : 2002 Requirements 30pp S\$24.30 Sets requirements for quality system applicable to the methods used in, and the facilities and controls used for, the design, manufacture, packaging, labelling and storage of all components which are used in finished devices intended for human use. The requirements in this quality system are intended to ensure that components meet the requirements of finished medical devices manufacturer. Establishes basic requirements applicable to manufacturers of components. Part 2 : 2002 Guidance on the application of requirements 69pp S\$54.00 Applies to all component manufacturers including manufacturers of standard or off-the-shelf components who are encouraged to use applicable elements as guidance for their quality management systems. Covers quality management and organisation, component design, facilities, purchase and handling of starting materials, production and process controls, packaging and labelling control, component evaluation, delivery, complaint handling and records.
TR 8 : 2003	Quality management for bunker supply chain (QMBS) (Withdrawn, June 2008. Replaced by SS 524 : 2006)
TR 9 : 2003	Maturity assessment for eSupply Chain Management (ESCM) S\$83.70 (available in e-copies only) Covers the eSCM assessment framework in terms of geography, industry sectors, elements of supply chain and processes. Primarily intended for the Singapore operations of the company. Applicable for all roles across the supply chain. Covers collaborative elements of supply chain i.e. areas of collaboration with suppliers, customers, logistic service providers and other partners in managing the supply chain. Does not cover internal elements of an organisation.

TR 10 : 2003	Compressed natural gas (CNG) vehicle workshop and personnel requirements 35pp S\$30.60 Sets out requirements for the premises, personnel and procedures for work on CNG vehicles, such as installation of fuel system, inspection, maintenance, servicing and repairs.
TR 11 : 2003	Compressed natural gas (CNG) vehicle component and installation 32pp S\$24.30 Specifies requirements for the installation, commissioning, certification and periodic inspection of CNG fuel systems mounted on motor vehicles, either for powering the vehicle or for other purposes.
TR 12 : 2003	Compressed natural gas (CNG) vehicle refuelling stations 40pp S\$30.60 Applies to the design, construction and operation of a CNG refuelling station operating on pipeline quality gas.
TR 13 : 2003	Performance standard for embedding conduits in concrete (Withdrawn, May 2008)
TR 14 : 2003	Singapore electronic bill presentment and payment (EBPP) shared infrastructure 45pp S\$36.00 Includes the business framework identifying the deployment model of the EBPP infrastructure services, code of business practice for the EBPP-related services, technical messaging standards to enable interoperability between different EBPP-related services.
TR 15 : -	Thermal imagers for human temperature screening Part 1 : 2003 Requirements and test methods 26pp S\$24.30 Specifies the performance requirements and test methods for characterising thermal imagers used for non-invasive human temperature screening of large groups of individuals under indoor environmental conditions. Part 2 : 2004 Implementation guidelines 24pp S\$18.90 Provides general guidelines for the implementation of thermal imagers for non-invasive human temperature screening of large groups of individuals under indoor environmental conditions.
TR 16 : 2003	Cleaning performance for public housing estates (Withdrawn, April 2007. Replaced by SS 533 : 2007)
TR 17 : 2004	Fingerprint image quality metrics 20pp S\$18.90 Describes the methods and practices for defining the quality of a fingerprint image. Focuses on methods employing local and global quality measures, which ranges from a localised block level perspective as well as the global perspective which takes into account the entire image. While local quality measures confirm the texture-like pattern within a localised area of the fingerprint image, the global quality measures verify the orderly flow pattern of the ridges in the full impression of a fingerprint image. Although the methods and practices described are tailored towards the whole fingerprint image, the local quality measure can be used to define the quality metrics of a subset region or the region around a minutia.

- TR 18 : 2005** **Vector management services in housing estates managed by Town Councils: Scope of works and quality measuring system**
23pp S\$18.90
- Specifies the essential scope of works and the system for measuring the quality of vector management services provided to the Town Council. Applies to the quality and feedback services covering recommendations on prevention provided to housing estates managed by Town Councils, with respect to the management of vectors of public health importance, namely mosquitoes, rodents, cockroaches and flies.
- TR 19 : 2005** **Business continuity management (BCM)**
Erratum No. 1, September 2006
56pp S\$42.30
- Specifies the requirements for organisations intending to build competence, capacity, resilience and readiness to respond to and recover from events which threaten to disrupt normal business operations and activities. Stipulates the requirements to attain and maintain readiness to deal with risks and risk events faced by organisations due to the nature of their businesses, external environment or regulatory requirements. Does not prescribe how organisations should comply with the stipulations in this TR as each organisation's operations and environment are unique, and changes with advancement in technology, business operations and activities, external environment and industry practices, and the need to comply with regulatory requirements. Does not deal with the management of the BC Plan project, e.g. project initiation and gaining of executive management support to endorse the project.
- Replaced by SS 540 : 2008.
- TR 20 : 2005** **Cold chain management of chilled pork**
44pp S\$36.00
- Intended for the application and observance of temperature controls in each sector of the Cold Chain for chilled pork. Sets out recommendations and guidelines for the proper Cold Chain management of chilled pork from the abattoir, transportation, storage, de-boning, distribution, handling, retailing, and thereafter purchase by consumers. Covers chilled pork both from the local abattoir and accredited overseas abattoirs, and chilled pork packed in vacuum and non-vacuum packs. Excludes warm pork which is not permitted in Singapore.
- TR 21 : 2005** **Security management system for hotels**
24pp S\$18.90
- Applies to the security measures implemented in hotels.
- TR 22 : 2006** **Usability of biometric systems**
18pp S\$18.90
- Covers an overview to potential new users, factors affecting ease of use, performance measures, privacy of the biometric users, overall system design and legal aspects in deployment and use.
- TR 23 : 2006** **Voice biometrics**
82pp S\$65.70
- Introduces the current state of voice biometrics technology. Provides a broad technological, market and research overview of the current state of development and commercial applications of voice biometrics.
- TR 24 : 2007** **Cold chain management of vegetables**
60pp S\$48.60
- Covers the proper cold chain management of vegetables from the pre-harvest and harvesting practices at the farm, to post-harvest handling, packing/packaging, storage, transportation, distribution, and retail sale, and thereafter purchase by consumers so as to ensure safety and freshness in quality. Applies to whole, intact vegetables which have not been further processed. Covers whole leafy, headed, fruited vegetables and herbs.

SINGAPORE STANDARDS ALIGNED WITH ISO/IEC STANDARDS

Singapore Standard	Degree of Equivalence	ISO/IEC Standard
SS 5 : Part A1 : 2003	IDT	ISO 15528 : 2000
SS 5 : Part A2 : 2003	IDT	ISO 1513 : 1992
SS 5 : Part A3 : 2003	MOD	ISO 1514 : 1993
SS 5 : Part A4 : 2003	IDT	ISO 3270 : 1984
SS 5 : Part B1 : 2003	MOD	ISO 2808 : 1997
SS 5 : Part B2 : 2003	IDT	ISO 3251 : 1993
SS 5 : Part B7 : 2003	IDT	ISO 2811-1 : 1997
SS 5 : Part B13 : 2003	IDT	ISO 1524 : 2000
SS 5 : Part D2 : 2003	MOD	ISO 1517 : 1973
SS 5 : Part D5 : 2003	MOD	ISO 9117 : 1990
SS 5 : Part E1 : 2003	MOD	ISO 2813 : 1994
SS 5 : Part E2 : 2003	MOD	ISO 6504-3 : 1998
SS 5 : Part E3 : 2003	IDT	ISO 3668 : 1998
SS 5 : Part F1 : 2003	MOD	ISO 1519 : 1973
SS 5 : Part F2 : 2003	MOD	ISO 1518 : 1992
SS 5 : Part G1 : 2003	MOD	ISO 7253 : 1996
SS 5 : Part G6 : 2003	MOD	ISO 6270-1 : 1998
SS 5 : Part H7 : 2003	IDT	ISO 4628-6 : 1990
SS 11 : Part 1 : 1994#	IDT	ISO 5555 : 1991
SS 11 : Part 2 : 1994#	IDT	ISO 661 : 1989
SS 11 : Part 4 : 1994#	IDT	ISO 6320 : 1985
SS 11 : Part 7 : 1994#	IDT	ISO 663 : 1992
SS 11 : Part 9 : 1994#	IDT	ISO 660 : 1983
SS 11 : Part 10 : 1994#	IDT	ISO 3961 : 1989
SS 11 : Part 11 : 1994#	IDT	ISO 3657 : 1988
SS 11 : Part 12 : 1994#	IDT	ISO 3596-1 : 1988
SS 11 : Part 15 : 1994#	IDT	ISO 3960 : 1977
SS 11 : Part 16 : 1994#	IDT	ISO 6321 : 1991
SS 11 : Part 19 : 1994#	IDT	ISO 5508 : 1990
SS 97 : Part 1 : 2005	MOD	IEC 61008-1 : 2002
SS 99 : 1998	MOD	ISO 4706 : 1989
SS 101 : 1999	IDT	IEC 61032 : 1997
SS 146 : Part 1 : 2004	IDT	IEC 60335-1 : 2001
SS 146 : Part 1 : 2008	IDT	IEC 60335-1 : 2001 (consolidated edition incorporating IEC Amendments and Corrigenda
SS 146 : Part 2 : 5 : 2007	MOD	IEC 60335-2-35 : 2002
SS 146 : Part 2 : 8 : 2007	MOD	IEC 60335-2-21 : 2004
SS 227 : Part 1 : 2000	IDT	IEC 60669-1 : 2000
SS 227 : Part 2 : 1 : 2000	IDT	IEC 60669-2-1 : 2000

Singapore Standard	Degree of Equivalence	ISO/IEC Standard
SS 251 : 1996	IDT	ISO 1219-1 : 1991
SS 254 : Part 0 : 2001	IDT	IEC 60079-0 : 2000
SS 254 : Part 1 : 2001	IDT	IEC 60079-1 : 2001
SS 254 : Part 2 : 2002	IDT	IEC 60079-2 : 2001
SS 254 : Part 6 : 2003	IDT	IEC 60079-7 : 2001
SS 254 : Part 10 : 2003	IDT	IEC 60079-10 : 2002
SS 254 : Part 11 : 2003	IDT	IEC 60079-11 : 1999
SS 254 : Part 14 : 2005	IDT	IEC 60079-14 : 2002
SS 263 : Part 1 : 2005	IDT	IEC 60598-1 : 2003
SS 263 : Part 2 : 1998	IDT	IEC 60598-2-22 : 1997
SS 313 : 1998	IDT	ISO 9994 : 1995
SS 323 : Part C3 : 1996	IDT	ISO 6383-2 : 1983
SS 358 : Part 1 : 1996	IDT	IEC 60227-1 : 1993
SS 358 : Part 2 : 2005	IDT	IEC 60227-2 : 2003
SS 358 : Part 3 : 1996	MOD	IEC 60227-3 : 1993
SS 358 : Part 5 : 2005	MOD	IEC 60227-5 : 2003
SS 360 : 1992	NEQ	IEC 60879 : 1986
SS 362 : Part 1 : 2004	IDT	ISO/IEC 15420 : 2000
SS 362 : Part 2 : 2004	MOD	ISO/IEC 15417 : 1999 and ISO/IEC 15418 : 1999
SS 372 : Part 1 : 2000	MOD	ISO/IEC 7816-1 : 1997
SS 372 : Part 3 : 2000	IDT	ISO/IEC 7816-3 : 1997
SS 404 : Part 1 : 1997	IDT	IEC 60076-1 : 1993
SS 404 : Part 2 : 1997	IDT	IEC 60076-2 : 1993
SS 404 : Part 3 : 2001	IDT	IEC 60076-3 : 2000
SS 404 : Part 5 : 2001	IDT	IEC 60076-5 : 2000
SS 404 : Part 8 : 2000	IDT	IEC 60076-8 : 1997
SS 405 : 1998	MOD	ISO 11193 : 1994
SS 427 : 1998	IDT	ISO 10065 : 1990
SS 442 : Part 1 : 1998	IDT	ISO 8351-1 : 1994
SS 442 : Part 2 : 1998	IDT	ISO 6590-1 : 1983
SS 442 : Part 3 : 1998	IDT	ISO 8367-1 : 1993
SS 442 : Part 4 : 1998	IDT	ISO 6591-1 : 1984
SS 442 : Part 5 : 1998	IDT	ISO 7023 : 1983
SS 442 : Part 6 : 1998	IDT	ISO 6599-1 : 1983
SS 442 : Part 7 : 1998	IDT	ISO 7965-1 : 1984
SS 445 : 1998	IDT	IEC 60839-10-1 : 1995
SS 446 : 1998	IDT	ISO 7292 : 1997
SS 447 : 1998	IDT	ISO 10286 : 1996
SS 456 : 1999	IDT	ISO 6892 : 1997
SS 460 : 1999	IDT	ISO 780 : 1985
SS 461 : Part 1 : 1999	IDT	ISO/IEC 11172-1 : 1993
SS 461 : Part 2 : 1999	IDT	ISO/IEC 11172-2 : 1993
SS 461 : Part 3 : 1999	IDT	ISO/IEC 11172-3 : 1993

Singapore Standard	Degree of Equivalence	ISO/IEC Standard
SS 461 : Part 4 : 1999	IDT	ISO/IEC 11172-4 : 1995
SS 462 : Part 1 : 1999	IDT	ISO/IEC 13818-1 : 1996
SS 462 : Part 2 : 1999	IDT	ISO/IEC 13818-2 : 1996
SS 462 : Part 3 : 1999	IDT	ISO/IEC 13818-3 : 1998
SS 462 : Part 6 : 1999	IDT	ISO/IEC 13818-6 : 1998
SS 462 : Part 7 : 1999	IDT	ISO/IEC 13818-7 : 1997
SS 462 : Part 9 : 1999	IDT	ISO/IEC 13818-9 : 1996
SS 471 : 1999	IDT	IEC 60238 : 1998
SS 475 : Part 1 : 2000	IDT	ISO 6934-1 : 1991
SS 475 : Part 2 : 2000	IDT	ISO 6934-2 : 1991
SS 475 : Part 3 : 2000	IDT	ISO 6934-3 : 1991
SS 475 : Part 4 : 2000	IDT	ISO 6934-4 : 1991
SS 475 : Part 5 : 2000	IDT	ISO 6934-5 : 1991
SS 478 : Part 0 : 2000	IDT	ISO 31-0 : 1992
SS 478 : Part 1 : 2000	IDT	ISO 31-1 : 1992
SS 478 : Part 2 : 2000	IDT	ISO 31-2 : 1992
SS 478 : Part 3 : 2000	IDT	ISO 31-3 : 1992
SS 478 : Part 4 : 2000	IDT	ISO 31-4 : 1992
SS 478 : Part 5 : 2000	IDT	ISO 31-5 : 1992
SS 478 : Part 6 : 2000	IDT	ISO 31-6 : 1992
SS 478 : Part 7 : 2000	IDT	ISO 31-7 : 1992
SS 478 : Part 8 : 2000	IDT	ISO 31-8 : 1992
SS 478 : Part 9 : 2000	IDT	ISO 31-9 : 1992
SS 478 : Part 10 : 2000	IDT	ISO 31-10 : 1992
SS 478 : Part 11 : 2000	IDT	ISO 31-11 : 1992
SS 478 : Part 12 : 2000	IDT	ISO 31-12 : 1992
SS 478 : Part 13 : 2000	IDT	ISO 31-13 : 1992
SS 479 : 2000	IDT	IEC 60155 : 1993
SS 480 : Part 1 : 2005	MOD	IEC 61009-1 : 2003
SS 481 : Part 1 : 2000	MOD	IEC 60601-1 : 1988
SS 487 : 2001	MOD	ISO 972 : 1997
SS 490 : Part 1 : 2001	IDT	IEC 61347-1 : 2000
SS 490 : Part 2 : 4 : 2001	IDT	IEC 61347-2-4 : 2000
SS 490 : Part 2 : 7 : 2001	IDT	IEC 61347-2-7 : 2000
SS 504 : Part 1 : 2003	IDT	IEC 61386-1 : 1996
SS 504 : Part 21 : 2003	IDT	IEC 61386-21 : 2002
SS 504 : Part 22 : 2003	IDT	IEC 61386-22 : 2002
SS 507 : 2008	MOD	ISO/IEC 24762 : 2008
SS 508 : Part 1 : 2004	IDT	ISO 3864-1 : 2002
SS 508 : Part 2 : 2008	IDT	ISO 3864-2 : 2004
SS 508 : Part 3 : 2004	IDT	ISO 7010 : 2003
SS 508 : Part 4 : 2008	IDT	ISO 3864-3 : 2006
SS 513 : Part 1 : 2005	IDT	ISO 20345 : 2004

Singapore Standard	Degree of Equivalence	ISO/IEC Standard
SS 513 : Part 2 : 2005	IDT	ISO 20344 : 2004
SS 528 : Part 1 : 2006	IDT	ISO 10333-1 : 2000
SS 528 : Part 2 : 2006	IDT	ISO 10333-2 : 2000
SS 528 : Part 3 : 2006	IDT	ISO 10333-3 : 2000
SS 528 : Part 4 : 2006	IDT	ISO 10333-4 : 2002
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SS 528 : Part 6 : 2006	IDT	ISO 10333-6 : 2004
SS 531 : Part 1 : 2006	IDT	ISO 8995-1 : 2002 / CIE S 008/E-2001
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Identical : IDT

Modified : MOD

Not equivalent in technical content : NEQ

Differs from ISO title

Note : See also section of the Catalogue on Singapore Standards adopted directly from ISO/IEC Standards, i.e. Singapore Standards identical to ISO/IEC standards.

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The ICS Classification scheme is a broad subject classification of standards. It has an hierarchical structure of three levels (both numerical and textual):

- Level 1 - Field e.g. 29 ELECTRICAL ENGINEERING
- Level 2 - Group e.g. 29.120 Electrical accessories
- Level 3 - Subgroup e.g. 29.120.30 Plugs, socket-outlets, couplers

List of ICS Fields used in the Singapore Standards Catalogue:

- 01 GENERALITIES. TERMINOLOGY. STANDARDISATION. DOCUMENTATION
- 03 SERVICES. COMPANY ORGANISATION, MANAGEMENT AND QUALITY. ADMINISTRATION. TRANSPORT. SOCIOLOGY
- 07 MATHEMATICS. NATURAL SCIENCES
- 11 HEALTH CARE TECHNOLOGY
- 13 ENVIRONMENT. HEALTH PROTECTION. SAFETY
- 17 METROLOGY AND MEASUREMENT. PHYSICAL PHENOMENA
- 19 TESTING
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- 23 FLUID SYSTEMS AND COMPONENTS FOR GENERAL USE
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- 29 ELECTRICAL ENGINEERING
- 31 ELECTRONICS
- 33 TELECOMMUNICATIONS. AUDIO AND VIDEO ENGINEERING
- 35 INFORMATION TECHNOLOGY. OFFICE MACHINES
- 37 IMAGE TECHNOLOGY
- 43 ROAD VEHICLES ENGINEERING
- 47 SHIPBUILDING AND MARINE STRUCTURES
- 53 MATERIALS HANDLING EQUIPMENT
- 55 PACKAGING AND DISTRIBUTION OF GOODS
- 65 AGRICULTURE
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- 71 CHEMICAL TECHNOLOGY
- 75 PETROLEUM AND RELATED TECHNOLOGIES
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SS 251

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