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SINGAPORE STANDARD Manhole tops and surface-box tops

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This Singapore Standard was approved by the Building Materials Product Standards Committee on behalf of the Standards Council of Singapore on 3 December 1999.

First published, 1971 First revision, 1981 Second revision, 1999

The Building Materials Product Standards Committee appointed by the Standards Council consists of the following members:

		Name	Organisation
Chairman	:	Mr Goh Chong Chia	Standards Council
Secretary	:	Mr Han Kin Sew	Singapore Productivity and Standards Board
Members	:	Mr Boo Geok Kwang Assoc Prof Chiew Sing Ping Mr Goh Soo Meng Mr John Kong Wai Meng Mr Lee Seng Kee Mr Lim Hsiang Iu Mr Larry Ng Lye Hock Mr Ong Geok Soo Ms Pauline Sim Mr P Sripathy Ms Tan Chiew Wan Assoc Prof Tan Kiang Hwee Mr Tan Tian Chong	Singapore Civil Defence Force Nanyang Technological University Institution of Engineers Singapore Singapore Confederation of Industries Singapore Mass Rapid Transit Urban Redevelopment Authority Housing & Development Board Jurong Town Corporation Singapore Institute of Architects Land Transport Authority Singapore Productivity and Standards Board National University of Singapore Building and Construction Authority
Co-opted Member	:	Mr Teo Tit Ngee Dr Tam Chat Tim	Singapore Contractors Association Limited Individual Capacity

The Technical Committee on External Works appointed by the Building Materials Product Standards Committee and responsible for the preparation of this standard consists of representatives from the following organisations:

	Name	Organisation
:	Mr Ong Geok Soo	Building Materials Products Standards Committee
:	Mr Goh Soo Meng	Institution of Engineers Singapore
:	Ms Lee Hiok Hoong	Singapore Productivity and Standards Board
:	Assoc Prof David Chew Ah Seng	Nanyang Technological University
	Mr Koh Chin Hah	Singapore Confederation of Industries
	Assoc Prof Lim Chong Nam	National University of Singapore
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Members : Mr Michael Tai Singapore Contractors' Association Limited

Mr Teh Yew Hock PWD Corporation Private Limited
Mdm Toh Kwee Jong Singapore Institute of Architects

Co-opted Member

Member: Mr Chua Kang Tor Singapore Productivity and Standards Board

The Working Group appointed by the Technical Committee to assist in the preparation of this standard comprises the following members:

		Name	Organisation
Convenor	:	Mr David Lim Soo Khiong	Housing & Development Board
Members	:	Assoc Prof David Chew Ah Seng	Nanyang Technological University
		Mr Lee Shen Sun	Singapore Productivity and Standards Board
		Mr Seng Puay Chor	Ministry of the Environment
		Mr Wan Kwan Seng	Chong Cheong Foundry Works Pte Ltd
		Mr Wong Choon Kwong	Singapore Telecommunications Limited

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Foreword

This Singapore Standard was prepared by the Technical Committee on External Works under the direction of the Building Materials Product Standards Committee.

It is a revised edition of SS 30: 1981.

It incorporates in particular the following changes from the previous edition:

- (a) Design load;
- (b) Place of installation;
- (c) Materials;
- (d) Design requirements;
- (e) Testing.

This standard made reference to EN 124: 1994 'Gully tops and manhole tops for vehicular and pedestrian areas – Design requirements, type testing, marking, quality control' and is produced with permission of CEN, rue de Stassart 36, B-1050 Brussels. All exploitation rights of the European Standard in any form and by any means are reserved worldwide by CEN to CEN members and no production may be undertaken without expressed permission in writing of CEN through PSB.

Acknowledgement is made for the use of information from the above reference.

NOTE

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SS 30: 1999

Specification for manhole tops and surface-box tops

1 Scope

This Singapore Standard specifies requirements for manhole tops, gully 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. This standard does not apply to floor and roof gullies in buildings.

As amended Sep 2006

The purpose of this standard is to establish definitions, grades, materials, design and testing requirements and marking of manhole tops and surface-box tops.

2 Normative references

As amended Sep 2006

This standard incorporates by dated references, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, the latest edition of the publication referred to applies.

ISO 185 : 2005	Grey cast irons – Classification			
ISO 1083 : 2004	Spheroidal graphite cast irons – Classification			
ISO 630 : 1995	Structural steels - Plates, wide flats, bars, sections and profiles			
ISO 1460 : 1992	Cast carbon steels for general engineering purposes			
ISO 1461 : 1999	Hot dip galvanized coatings on fabricated iron and steel articles – Specifications and test methods			
ISO 8062 : 1994	Castings – System of dimensional tolerances and machining allowances			
SS 2 : -	Steel for reinforcement of concrete			
	Part 1: 1999 Plain bars (Steel grade 300)			
	Part 2: 1999 Ribbed bars (Steel grade 500)			
SS 18 : -	Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric			
	Part 1:1999 Steel grade 500			
SS 32 : -	Welded steel fabric for the reinforcement of concrete			
	Part 1 : 1999 (Steel grades 300 and 500)			