

SINGAPORE STANDARD

Code of practice for cleaning and surface repair of buildings

– Part 2: Surface repair of natural stones, brick,
terracotta, concrete and rendered finishes

(Formerly CP 67 : Part 2)

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EM Services Pte Ltd

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Foreword

This Code of Practice was prepared by the Working Group under the direction of the Technical Committee on Facilities Management. The Technical Committee is under the purview of the Building and Construction Standards Committee. The SS 509 : Part 2 : 2005 is a revision of CP 67 : Part 2 : 1999.

SS 509 : Parts 1 and 2 will replace CP 67 : Part 1 : 1997 and CP 67 : Part 2 : 1999 respectively. Part 2 covers surface repair methods and materials for natural stones, brick, terracotta and rendered finishes. It excludes structural repairs to concrete and conservation buildings as well as to buildings with glass or cladding façade. It has been prepared in parallel and should be read in conjunction with SS 509 : Part 1, which provides guidance on cleaning.

This Code represents a standard of good practice. It aims to provide building owners, architects, building surveyors, engineers, managing agents, Town Councils, contractors and academics with useful technical information when considering surface repairs. In all cases, relevant government regulations prevailing at the time, which may apply to surface cleaning and repair works, are to be followed.

The structure of SS 509 : Part 2 is different from CP 67 : Part 2. The guidelines on cleaning methods are grouped in Part 1, which includes protection, access, cleaning materials and equipment while Part 2 focuses on surface repair methods. The new structure will make it easier for users to refer.

This standard is an adoption of BS 8221-2 : 2000 'Code of Practice for cleaning and surface repair of buildings – Part 2 : Surface repair of natural stones, brick and terracotta' and is implemented with the permission of British Standards Publishing Ltd.

Changes from BS 8221-2 include amendment of the title and the addition of the guidelines on surface repairs for rendered finishes from BS 5262 : 1991 'Code of Practice for External rendering' (refer to 12.2, 12.3 and Annex C of SS 509 : Part 2).

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

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions.*
2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR.*
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Code of practice for cleaning and surface repair of buildings – Part 2 : Surface repair of natural stones, brick, terracotta and rendered finishes

0 Introduction

This Code recommends investigative procedures for selecting a suitable repair process. It describes a range of repair and conservation procedures and some problems that may be encountered.

Before carrying out surface repairs, it is essential to ascertain any factors causing decay, such as open joints allowing water ingress, migrating salts from a backing wall, run-off from limestone, or a corroding metal tie/armature.

1 Scope

This Code 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 mortars, and provides guidance on treatment for protection of surfaces.

Structural repairs are not covered by this code of practice. For guidance on structural repairs, reference should be made to BS 5390 and BS 5628-1. Where there is any doubt about the structural nature of defects, advice should be sought from a Professional Engineer.

Where the building concerned is statutorily listed or is located in a conservation area, the relevant authority is to be consulted.

2 Normative references

The following normative documents contain provisions that, through reference in this text, constitute provisions of this Code of Practice. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For undated references, the latest edition of the publication referred to applies.

BS 63-2	Road aggregates – Specification for single-sized aggregate for surface dressing
BS 187	Specification for calcium silicate (sand-lime and flint-lime) bricks
BS 812-103-1	Testing aggregates – Method for determination of particle size distribution - Sieve tests
BS 890	Specification for building limes
BS 1014	Specification for pigments for and Portland cement products
BS 1178	Specification for milled lead sheet for building purposes
BS 1199 and 1200	Specifications for building sands from natural sources
BS 1217	Specification for cast stone
BS 2482	Specification for timber scaffold boards
BS 2873	Specification for copper and copper alloys – Wire
BS 3892-1	Pulverized-fuel ash – Specification for pulverized-fuel ash for use with Portland cement

BS 4551 (all parts)	Methods of testing mortars, screeds and plasters
BS 4721	Specification for ready-mixed building mortars
BS 4729	Specification for dimensions of bricks of special shapes and sizes
BS 4887-1	Mortar admixtures – Specification for air-entraining (plasticizing) admixtures
BS 5224	Specification for masonry cement
BS 5262	Code of practice for external renderings
BS 5390	Code of practice for stone masonry
BS 5628-1	Code of practice for use of masonry – Structural use of unreinforced masonry
BS 6100 (all parts)	Glossary of building and civil engineering terms
BS 6213	Guide to selection of constructional sealants
BS 6477	Specification for water repellents for masonry surfaces
BS 6649	Specification for clay and calcium silicate modular bricks
BS 6915	Specification for design and construction of fully supported lead sheet roof and wall coverings
BS 7913	Guide to the principles of the conservation of historic buildings
BS 8210	Guide to building maintenance management
BS EN 10088	Stainless steels Part 2 : Technical delivery condition for sheet, plate and strip for general purposes Part 3 : Technical delivery conditions for semi-finished products, bars, rods and sections for general purpose
BS EN ISO 3506	Mechanical properties of corrosion resistant stainless-steel fasteners Part 1 : Bolts, screws and studs Part 2 : Nuts
DD ENV 459-1	Building lime – Definitions, specifications and conformity criteria
PD 6472	Guide to specifying the quality of building mortars
CP 14	Use of scaffold
CP 20	Suspended scaffold
SS 26	Ordinary Portland cement
SS 31	Coarse and fine aggregates from natural sources for concrete
SS 103	Burnt clay and shale bricks
Environmental Pollution Control Act (1999)	