



# SINGAPORE STANDARD Code of practice for installation of clay roofing tiles



Published by



**CP 94 : 2002** (ICS 91.100.15)

### SINGAPORE STANDARD

# Code of practice for installation of clay roofing tiles

All rights reserved. Unless otherwise specified, no part of this Singapore Standard may be reproduced or utilised in any form or by any means, electronic or mechanical, including photocopying and microfilming, without permission in writing from Enterprise Singapore. Request for permission can be sent to: standards@enterprisesg.gov.sg.

This Singapore Standard was approved by the Building and Construction Standards Committee on behalf of the Standards Council of Singapore on 4 July 2002.

First published, 2002.

The Building and Construction Standards Committee was appointed by the Standards Council and consists of the following members:

		Name	Organisation
Chairman	:	Mr Goh Chong Chia	Standards Council
1 <sup>st</sup> Deputy Chairman	:	Dr Tam Chat Tim	Standards Council
2 <sup>nd</sup> Deputy Chairman	:	Mr Tan Tian Chong	Standards Council
Secretary 1	:	Mr Han Kin Sew	SPRING Singapore
Secretary 2	:	Mr Kenneth See Khoon	SPRING Singapore
Members	:	Mr Boo Geok Kwang	Singapore Civil Defence Force
		Dr Jimmy Chen Wie Ying	Individual Capacity
		Asoc Prof Chiew Sing Ping	Nanyang Technological University
		Mr Desmond Hill	Singapore Contractors Association Limited
		Mr Koh Boon Jeng	Building and Construction Authority
		Mr Benedict Lee Khee Chong	Singapore Institute of Architects
		Mr Larry Ng Lye Hock	Housing & Development Board
		Er. See Sing Kok	Singapore Confederation of Industries
		Dr Tan Guan	Association of Consulting Engineers Singapore
		Er. Tan Seng Chuan	Institution of Engineers, Singapore
		Assoc Prof Tan Thiam Soon	National University of Singapore
		Mrs Tham Siyou Kim	Land Transport Authority

The Technical Committee on Architectural Practice appointed by the Construction Industry Practice Committee and responsible for the preparation of this standard consists of representatives from the following organisations:

		Name	Organisation
Chairman	:	Mr Ian Lander	Individual Capacity
Deputy			
Chairman	:	Mr Larry Ng Lye Hock	Housing & Development Board
Secretary	:	Mr Mohamed Bin Awi	SPRING Singapore
Members	:	Mr Allen Ang Aik Leng	Building and Construction Authority*
		Mr Chng Peng Soon	JTC Corporation
		Mr Fang Yea Saen	PWD Consultants Pte Ltd
		Mr John Kong	Singapore Confederation of Industries
		Ms Yvonne Soh Swee Leng	Building and Construction Authority**
		Mr Tan Chit Phee	Singapore Institute of Architects

up till June 2000

,

from July 2000

CP 94 : 2002

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

		Name	Organisation
Convenor	:	Mr Tan Chit Phee	Singapore Institute of Architects
Members	:	Mrs Sally Chua-Cheng W P	Urban Redevelopment Authority
		Mr Nicholas Koh	Individual Capacity
		Mr Peter Lim	Individual Capacity
		Mr Anthony Ng Soon Hock	Individual Capacity
		Mr Eddie Sim	Individual Capacity
		Mr Tang Kok Thye	Individual Capacity

Con	ntents	Page		
Fore	Foreword			
COD	E OF PRACTICE			
1	Scope	7		
2	Definitions	7		
3	General			
4	Materials and components	8		
5	Installation of clay roofing tiles	9		
6	Maintenance of roofs	12		
7	Conservation projects	12		
ANN	EXES			
Α	Tile fixing in relation to pitch of roof	15		
В	Recommended sizes of tiling battens	16		
FIGU	JRES			
1	Suggested details for end flashings and overflashing (coping)	11		
2	An example of construction details for Trapezium Timber Rafter System	13		
3	An examples of construction details for Metal Decking Roof System	13		

### **Foreword**

This Code of Practice was prepared by the Technical Committee on Architectural Practice under the direction of the Construction Industry Practice Committee. It is intended to cover the installation of clay roofing tiles not covered in SS CP 43: 1988 which deals with the installation of concrete interlocking roofing tiles.

This code seeks to establish basic ground rules for the installation of clay roofing tiles and other related components of the roofing system and for their reasonable performance under normal applications. The ultimate performance of the total roofing system with clay roofing tiles will however still rely on the integrity of design and detailing, which is left very much to the designer, in order not to be too restrictive in creative applications.

An effort is made to present the code in the simplest form as possible. However, professional consultation would be necessary in establishing the pitch of roof ideally suited for the location.

An additional clause for Conservation Projects has been added as clay tiles are also used for these projects. Conservation Projects use the generic 'V'-tiles, which have different construction details from conventional roof tiles. These details have also been highlighted.

In preparing this code, reference was made to the following publications:

AS 2050: 1995/Amdt 2-1999 Installation of roof tiles

BS 6399 Part 2: 1997 Loading for buildings. Code of practice for wind loads

BS EN 1304 : 1998 Clay roofing tiles for discontinuous laying. Products definitions

and specifications

Acknowledgement is made for the use of information from these 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

- 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.
- Compliance with a SS or TR does not exempt users from any legal obligations.

## Code of practice for the installation of clay roofing tiles

### 1 Scope

This code establishes the basic rules for the installation of clay roofing tiles that apply only to roofs with a pitch of 15° or greater. The basic rules for the installation of 'V' tiles in Conservation Project(s) are set out in clause 7.

NOTE 1 – This code does not restrict the use of other fixing and fastening methods or materials where it can be shown that they are not inferior to the performance achieved by the materials and methods described herein.

NOTE 2 – Where it is intended to fix tiles to roofs with a pitch of less than  $15^{\circ}$  for interlocking tiles or  $25^{\circ}$  for overlapping tiles, the tile manufacturer's advice should be sought.

NOTE 3 – The titles of the publications referred to in this code are listed at the end of the code.