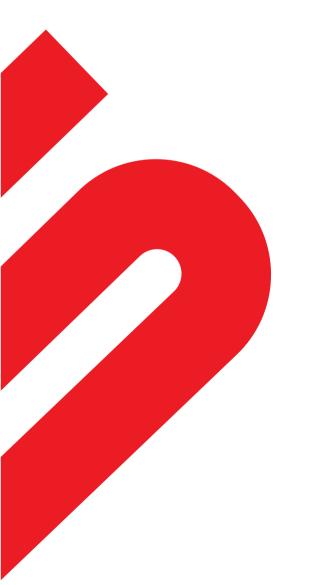


(ICS 13.220.50; 91.010.30; 91.080.10)

SINGAPORE STANDARD Singapore National Annex to Eurocode 3 : Design of steel structures

- Part 1-2 : General rules - Structural fire design

Confirmed 2016



Published by



(ICS 13.220.50; 91.010.30; 91.080.10)

SINGAPORE STANDARD

Singapore National Annex to Eurocode 3 : Design of steel structures

- Part 1-2 : General rules - Structural fire design

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.

ISBN 978-981-4278-34-8

This Singapore Standard was approved by the Building and Construction Standards Committee on behalf of the Standards Council of Singapore on 10 December 2009.

First published, 2009

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

	Name		Capacity	
Chairman	: Mr Goh Peng Thong		Member, Standards Council	
1 st Dy Chairman	Mr Lee Chuan S	Seng	Member, Standards Council	
2 nd Dy Chairman	Mr Tan Tian Ch	ong	Member, Standards Council	
Secretary	Mr James Choo	Sou Yong	SPRING Singapore	
Members	Mr Boo Geok Kv Er. Chan Ewe Ji Mr Chan Yew K Mr Paul Fok	in	Singapore Civil Defence Force Institution of Engineers, Singapore Ministry of Manpower Land Transport Authority	
	Mr Goh Ngan H Mr Anselm Gon Mr Desmond Hi	salves	Singapore Institute of Surveyors and Valuers National Environment Agency Singapore Contractors Association Limited	
	Mr Benedict Lee Khee Chong Ms Andris Leong Assoc Prof Leong Eng Choon		Singapore Institute of Architects	
			Building and Construction Authority Nanyang Technological University	
	Dr Lim Lan-Yua	n	The Association of Property and Facility Managers	
	Mr McDonald Lo	W	Real Estate Developers' Association of Singapore	
	Mr Larry Ng Lye	Hock	Urban Redevelopment Authority	
	Assoc Prof Gary Ong Khim Chye		National University of Singapore	
	Mr Davis Ong W	lee Choon	Singapore Manufacturers' Federation	
	Er. Shum Chee	Hoong	Housing & Development Board	
	Dr Tan Guan		Association of Consulting Engineers, Singapore	
Co ontod	Mr Tang Pei Lue	en	JTC Corporation	
Co-opted Members	Prof Choo Soo	•	National University of Singapore	
	Dr Tam Chat Ti	m	Individual Capacity	

The Technical Committee on Building Structure and Sub-structure appointed by the Building and Construction Standards Committee and responsible for the preparation of this standard consists of representatives from the following organisations:

	Name	Capacity
Chairman :	Dr Tan Guan	Member, Building and Construction Standards Committee
Co-Chairman	Er. Chew Keat Chuan	Building and Construction Authority
Secretary :	Ms Lee Hiok Hoong	SPRING Singapore

Members :	Er. Chan Ewe Jin	Institution of Engineers, Singapore	
	Dr Chen Enyi	Cement and Concrete Association of Singapore	
	LTC Cheok Poh Chin	Singapore Civil Defence Force	
	Dr Sujit Ghosh	Ready Mix Concrete Association of Singapore	
	Dr Ho Nyok Yong	Singapore Contractors Association Ltd	
	Mr Ho Wan Boon	Singapore Structural Steel Society Land Transport Authority Singapore Concrete Institute	
	Mdm Neo Bian Hong		
	Assoc Prof Gary Ong Khim Chye		
	Mr Sze Thiam Siong	Setsco Services Pte Ltd	
	Er. Angeline Tan Bee Hoon	Housing & Development Board	
	Er. Tan Jui Teck	CPG Corporation Pte Ltd	
Assoc Prof Tan Kiang Hwee		National University of Singapore	
	Er. Tang Pei Luen	JTC Corporation	
	Assoc Prof Susanto Teng	Nanyang Technological University	
Co-opted			
Members :	Dr Tam Chat Tim	Individual Capacity	
	Dr Tan Teng Hooi	Individual Capacity	
	Er. Tay Yak Hong	Individual Capacity	

The following Technical Experts contributed in their *individual capacity* to the preparation of this standard:

Prof Richard Liew Jat Yuen (Convenor) Er. Tay Yak Hong (Co-Convenor) Dr Tan Kang Hai (Taskforce Leader) Er. Chang Heng Choy (Secretary) Er. Goh Kok Hwa Maj Poon Keng Soon Er. John J Sanderson Mr. Anthony Tan Kin Wah

The organisations in which the experts are involved are:

BlueScope Lysaght (S) Pte Ltd Building and Construction Authority Land Transport Authority Nanyang Technological University National University of Singapore Sanderson Group Services Pte Ltd Singapore Civil Defence Force TYH Consulting Engineers

(blank page)

4 COPYRIGHT

Contents

		Page
Natior	al Foreword	6
CLAU	SES	
NA.1	Scope	7
NA.2		
NA.3	Decisions on the status of the informative annexes	
NA.4	Reference to non-contradictory complementary information	8
TABL	ES	
NA.1	Default values for critical temperatures	8

National Foreword

This National Annex was prepared by the Technical Committee on Building Structure and Substructure under the purview of the Building and Construction Standards Committee.

This standard is an adoption of UK National Annex (NA to BS EN 1993-1-2 : 2005) to Eurocode 3: Design of steel structures – Part 1-2 : General rules – Structural fire design and is implemented with the permission of British Standards Publishing Ltd.

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

This Singapore NA contains information on those parameters which are left open in EN 1993-1-2 for national choice, known as nationally determined parameters. The Singapore NA is to be read in conjunction with the SS EN 1993-1-2 : 2009 – Eurocode 3: Design of steel structures – Part 1-2: General rules – Structural fire design.

Where appropriate, users may refer to the guidance and recommendation in BC 1:2008 'Design guide on use of alternative steel materials to BS 5950' published by the Building Construction Authority (BCA).

At the time of publication, this standard is expected to be used as a reference in the Building and Construction Authority's 'Approved Document – Acceptable Solutions'.

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

Singapore National Annex to SS EN 1993-1-2 : 2009 – Eurocode 3: Design of steel structures – Part 1-2 : General rules – Structural fire design

NA.1 Scope

This National Annex gives:

- a) The Singapore decisions for the national determined parameters described in the following subclauses of SS EN 1993-1-2:2009:
 - 2.3(1)
 - 2.3(2)
 - 4.1(2)
 - 4.2.3.6(1)
 - 4.2.4(2)
- b) The decisions on the status of SS EN 1993-1-2:2009 informative annexes; and
- c) References to non-contradictory complementary information.