SINGAPORE STANDARDS COUNCIL

SS 18 : Part 1 : 1999
(ICS 77.140.65)

SINGAPORE STANDARD

Specification for Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric

– Part 1 : Steel grade 500

Published by
SPRING singapore
Enabling Enterprise

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ISBN 9971-67-695-8

This Singapore Standard having been approved by the Building Materials Product Standards Committee was endorsed by the Standards Council on 8 February 1999.

First published, 1970
First revision, 1999

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

		Name	Organisation
Chairman	:	Mr Kenneth Chen Koon Lap	*Standards Council*
Secretary	:	Mr Han Kin Sew	*Singapore Productivity and Standards Board*
Members	:	Mr Boo Geok Kwang	*Singapore Civil Defence Force*
		Mr Anthony Chia	*Urban Redevelopment Authority*
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		Mr Tan Tian Chong	*Construction Industry Development Board*
		Mr Teo Tit Ngee	*Singapore Contractors Association Limited*
Co-opted Member	:	Dr Tam Chat Tim	*Individual Capacity*

The Technical Committee on Review of SS 18 appointed by the Building Materials and Product Standards Committee and responsible for the preparation of this standard consists of representatives from the following organisations:

		Name	Organisation
Chairman	:	Assoc Prof Somsak Swaddiwudhipong	*Institution of Engineers Singapore*
Deputy Chairman	:	Mr Pang Piow Chi	*Singapore Confederation of Industries*
Secretary	:	Ms Lee Hiok Hoong	*Singapore Productivity and Standards Board*
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		Mr Lim Peng Hong	*Public Works Department*
		Mr Ooi Ching Chong	*Housing & Development Board*
		Mr Yoong Moke Kam	*Association of Consulting Engineers, Singapore*

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Foreword

This Singapore Standard was prepared by the Technical Committee on Review of SS 18 : 1970 under the direction of the Building Materials Product Standards Committee.

It is a revised edition of SS 18 : Part 2 : 1970 (formerly known as SS 18 : 1970).

It is related to ISO 10544 : 1992 'Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric' but is not equivalent in technical content. Modifications to certain areas of the ISO Standard were made to suit local practice and to be consistent with the other Singapore Standards on 'Steel for the Reinforcement of Concrete', namely SS 2 : Parts 1 and 2 : 1999 and SS 32 : Part 1 : 1999. These areas include $R_m/R_{p0.2}$, $A_{5.65}$ and the mandrel diameters for bend test.

This standard is released to allow time for the designers in the industry to introduce any necessary changes. The continued relevance of SS 18 : Part 2 : 1970 will be reviewed when CP 65 – 'Code of practice for structural use of concrete' is next reviewed.

Annexes C and D of this Singapore Standard are for information only. Included in Annex D (Informative) is a specification to limit ionising radiation from steel for the reinforcement of concrete. The specification is introduced to address concerns of possible radioactive contamination during the manufacturing process and the risk to health through exposure to radioactivity from the finished steel product.

Acknowledgement is made for the use of information from ISO.

NOTE

1. *Singapore Standards are subject to periodic review to keep abreast of technological changes and new technical developments. The revisions of Singapore Standards are announced through the issue of either amendment slips or revised editions.*

2. *Compliance with a Singapore Standard does not exempt users from legal obligations.*

Specification for cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric – Part 1 : Steel grade 500

1 Scope

This Singapore Standard specifies technical 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 : Part 1.

One steel grade, 500 N/mm^2, is defined.

Wires that may be used for the prestressing of concrete, tying, lifting and other general engineering or industrial purposes are not included in this standard. Wires used in severe cyclic conditions are also excluded.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Singapore Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Singapore Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

ISO 404 : 1992	Steel and steel products - General technical delivery requirements.
ISO 10144 : 1991	Certification scheme for steel bars and wires for the reinforcement of concrete structures.
SS 2 : -	Specification for steel for the reinforcement of concrete.
	Part 2 : 1999 Ribbed bars.
SS 32 : -	Specification for welded steel fabric for the reinforcement of concrete.
	Part 1 : 1999 Steel grades 300 and 500.
SS 427 : 1998	Steel bars for reinforcement of concrete - Bend and rebend tests.
SS 456 : 1999	Metallic materials - Tensile testing at ambient temperature.