

Specification for
SEISMIC RESISTANCE OF
ENGINEERING SYSTEMS IN BUILDINGS

Pr AA

AMENDMENT No. 1

August 1990

EXPLANATORY NOTE - Amendment No. 1 corrects the omission of fire sprinkler pipes from the provisions for piping systems, corrects errors and updates related documents.

APPROVAL

Amendment No. 1 was approved on 17 August 1990 by the Standards Council to be an amendment to NZS 4219:1983 pursuant to the provisions of section 10 of the Standards Act 1988.

RELATED DOCUMENTS

Delete the referenced New Zealand, British and Australian Standards and **substitute** the following:

"NEW ZEALAND STANDARDS

| | |
|------------------|--|
| NZS 3404:- - - - | The steel structures code |
| Part 1:1989 | New Zealand amendments to AS 1250:1981 (with commentary) |
| Part 2:1989 | Sections 12, 13, 14. Means of compliance (with commentary) |
| NZS 4203:1984 | Code of practice for general structural design and design loadings for buildings |

BRITISH STANDARDS

| | |
|---------------------------|--|
| BS 1387:1985 | Specification for screwed and socketed steel tubes and tubulars and for plain end steel tubes suitable for welding or for screwing to BS 21 pipe threads |
| BS 3601:1987 | Specification for carbon steel pipes and tubes with specified room temperature properties for pressure purposes |
| BS 6323:Parts 1 to 8:1982 | Specification for seamless and welded steel tubes for automobile, mechanical and general engineering purposes |

AUSTRALIAN STANDARDS

| | |
|--------------|--|
| AS 1111:1980 | ISO metric hexagon commercial bolts and screws |
| AS 1250:1981 | The use of steel in structures" |

(Amendment No. 1, August 1990)

Single User PDF Terms & Conditions

You have material which is subject to strict conditions of use. Copyright in this material is owned by the New Zealand Standards Executive. Please read these terms and conditions carefully, as in addition to the usual range of civil remedies available to Standards New Zealand on behalf of the New Zealand Standards Executive for infringement of copyright, under New Zealand law every person who infringes copyright may be liable to a fine of up to \$10,000 for every infringing copy or imprisonment of up to 5 years, or a fine of up to \$150,000 or imprisonment not exceeding 5 years.

You have access to a single-user licence to read this non-revisable Adobe Acrobat PDF file and print out and retain ONE printed copy only.

We retain title and ownership of the copyright in this PDF file and the corresponding permitted printed copy at all times.

Under this license use of both the PDF file and the single permitted printed copy of this PDF file you may make are restricted to you. Under no circumstances are you permitted to save, sell, transfer, or copy this PDF file, the one permitted printed copy of this PDF file, or any part of either of them.

You undertake that you will not modify, adapt, translate, reverse engineer, decompile, disassemble or create derivative works based on any of the downloaded PDF file, nor will you merge it with any other software or document, even for internal use within your organization.

Under no circumstances may this PDF file be placed on a network of any sort without our express permission.

You are solely responsible for the selection of this PDF file and any advice or recommendation given by us about any aspect of this PDF file is intended for guidance only and is followed or acted upon entirely at your own risk.

We are not aware of any inherent risk of viruses in this PDF file at the time that it is accessed. We have exercised due diligence to ensure, so far as practicable, that this file does not contain such viruses.

No warranty of any form is given by us or by any party associated with us with regard to this PDF file, and you accept and acknowledge that we will not be liable in any way to you or any to other person in respect of any loss or damage however caused which may be suffered or incurred or which may arise directly or indirectly through any use of this PDF file.

Regardless of where you were when you received this PDF file you accept and acknowledge that to the fullest extent possible you submit to New Zealand law with regard to this licence and to your use of this PDF file.

Copyright Standards New
Zealand

Table 2 SECTION PARAMETERS FOR ELASTIC DESIGN

In the last line, **delete** "BS 1775" and **substitute** "BS 6323".

(Amendment No. 1, August 1990)

2.16 Piping systems

Delete the first paragraph of 2.16.2 and **substitute**:

"Pipes carrying toxic and flammable liquids and gases, acids, alkalis or other hazardous substances, and fire sprinkler and other fire service pipes, up to 200 mm nominal bore (nb) shall be fixed against seismically induced movement as follows:"

(Amendment No. 1, August 1990)

APPENDIX A

Table A2
SEISMIC FORCE FACTORS FOR PARTS AND PORTIONS OF BUILDINGS

Under item 7, after (a) (ii), **add** the following line:
 "(b). Multi-storey buildings where the height to"

Under item 8, in the second line, **delete** the comma after "structures" and **substitute** a semi-colon.

(Amendment No. 1, August 1990)

APPENDIX B

Example 3

On page 29, two-thirds down the page, **delete** the equation:

$$"T = 2\pi \frac{M_p}{K_p} \quad " \text{ and } \textbf{substitute} \quad "T = 2\pi \sqrt{\left(\frac{M_p}{K_p}\right)} \quad "$$

(Amendment No. 1, August 1990)

APPENDIX B

Example 7

On page 34, three-quarters down the page, **delete** the equation:

$$"Stiffness K = \frac{12EI}{3} \quad " \text{ and } \textbf{substitute} \quad "Stiffness K = \frac{12EI}{l^3} \quad "$$

On page 35 in the upper diagram, **delete** the horizontal force "0.9 kN" and **substitute** "0.7 kN".

On page 35, halfway down the page **delete** the equation for "load in CD" and **substitute** :

$$"P_{CD} = \frac{0.7 \times 1.25 + 1.54 \times 1.18/2 - 0.92 \times 1.18 \sin \theta}{1.18} \quad "$$

(Amendment No. 1, August 1990)

(c) 1990 STANDARDS COUNCIL
 STANDARDS ASSOCIATION OF NEW ZEALAND
 WELLINGTON TRADE CENTRE,
 181-187 VICTORIA STREET
 WELLINGTON 1