

An MND Statutory Board

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1 Dec 2022

For enquiries, please contact:
Building Engineering Group (#12-01)
Tel: 1800 342 5222 (1800-DIAL-BCA)
or use our Online Feedback Form at:
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Dear Sir/Madam

NEW SINGAPORE STANDARD SS EN 1992-4:2021 – DESIGN OF FASTENINGS FOR USE IN CONCRETE

Objective

This circular is to inform the industry that the Singapore Standard SS EN 1992-4:2021 and its corresponding National Annex (NA) have been published and will be adopted as the prescribed standard on the design of fastenings for use in concrete.

Background

2 In our Circular dated 1 Oct 2014, we informed the industry that the standard for the use of post-installed anchors is BS 8539 'Code of practice for the selection and installation of post-installed anchors in concrete and masonry'. The standard gives recommendations for the safe selection and installation of anchors for use in concrete and masonry. Notwithstanding the publication of SS EN 1992-4, BS 8539 will remain relevant and complementary to SS EN 1992-4.

New Singapore Standard SS EN 1992-4:2021

3 This new standard SS EN 1992-4 provides a design method for fastenings which are used to transmit actions to the concrete and will be included in the list of acceptable design standards in the Approved Document. It can be used with immediate effect. However, the requirements of SS EN 1992-4 are to be read in conjunction with the corresponding Singapore National Annex, NA to SS EN 1992-4 which contains information on the Singapore Nationally Determined Parameters.

4 There are a few pertinent points that we wish to highlight in relation to the use of this new standard. These are described in the following paragraphs:

Proof load test and site testing regime

5 The quality of installation is critical to the performance of anchors. In the absence of a qualified installer certification scheme, proof load testing should be carried out for post-installed anchors. Reference can be made to BS 8539 for guidance on the test regimes. Recommendation on proof load test frequency is also given in the National Foreword of the

NA to SS EN 1992-4. Such tests are usually carried out to check the quality of installation to ensure they have been installed correctly. These tests are not generally appropriate for determining the suitability of an anchor in a particular base material or for determining its allowable resistance, for which other test regimes given in BS 8539 should be used.

Post-installed reinforcement bar connection

6 SS EN 1992-4 does not cover the design of post-installed reinforcement bars used to connect concrete members. Such connections shall be designed following the method provided in the relevant European Technical Product Specification¹.

For Clarification

7 We would appreciate if you could bring to the attention of your members the content of this circular. Should you need clarification on this matter, you may call our hotline at 1800 3425222, or use our Online Feedback Form at: <https://www.bca.gov.sg/feedbackform/>.

Yours faithfully



LUNG HIAN HAO
DIRECTOR, BUILDING ENGINEERING GROUP
BUILDING AND CONSTRUCTION AUTHORITY
for COMMISSIONER OF BUILDING CONTROL

¹ European Technical Product Specification refers to European Standard (EN), European Technical Assessment (ETA) for fastener or anchor channel based on a European Assessment Document (EAD) or a transparent and reproducible assessment that complies with all requirements of the relevant EAD.

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