

An MND Statutory Board

In Collaboration With



ASSOCIATION OF
CONSULTING ENGINEERS
SINGAPORE

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For enquiries, please contact:
Building Engineering Group (#10-01)
Tel: 1800 342 5222 (1800-DIAL-BCA)
or use our Online Feedback Form at:
<https://www.bca.gov.sg/feedbackform/>

Dear Sir/Madam

JOINT BCA/ACES CIRCULAR 2025 **PRACTICAL GUIDE FOR POST-INSTALLED REINFORCEMENT**

Objective

This circular is to inform the industry of the publication of the "Practical Guide for Post-Installed Reinforcement" (the 'Guide'), which was jointly developed by the Association of Consulting Engineers, Singapore ("ACES") and Building and Construction Authority ("BCA") to provide guidance for the use of post-installed reinforcement (PIR).

Background

2 The PIR system is a specialised fastening technology that entails drilling holes into cured concrete of an existing structure to bond newly inserted reinforcement bars (rebars) with a qualified adhesive, replicating the behaviour of cast-in rebars. PIR is commonly used in A&A works and is widely adopted within the construction industry. However, design guidance in structural design codes, such as SS EN 1992-1-1¹, is limited and is also not covered in SS EN 1992-4².

Practical Guide for Post-Installed Reinforcement

3 The Guide covers the fundamental aspects of PIR qualification, installation, quality control, and design. It also includes detailed design steps for PIR using the design anchorage length method, designed in accordance with SS EN 1992-1-1, and the state-of-the-art design resistance method, as detailed in the EOTA Technical Report TR 069³, along with practical design examples.

¹ Eurocode 2: Design of concrete structures – Part 1-1: General rules and rules for buildings

² Eurocode 2: Design of concrete structures – Part 4: Design of fastenings for use in concrete

³ Design method for anchorage of post-installed reinforcing bars (rebars) with improved bond-splitting behaviour as compared to EN 1992-1-1

4 The Guide aims to provide structural engineers the confidence of using PIR while ensuring the effective and safe use of PIR application in the industry. The Guide is available in softcopy at the respective websites of ACES and BCA, as below:

- https://www.aces.org.sg/wp-content/pdf/20250210%20Practical%20Guide%20for%20PIR_Final.pdf
- <https://go.gov.sg/pir-guide>

5 The Guide will be incorporated in the next update of the Approved Document. Notwithstanding that, industry practitioners can adopt the use of this Guide with immediate effect, if they wish to do so.

For Clarification

6 We would appreciate it if you could bring the content of this circular to the attention of your members. Should you need clarification on this matter, you may call our hotline at 1800 342 5222, or use our Online Feedback Form at: <https://www.bca.gov.sg/feedbackform/>.

Yours faithfully



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