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Dear Sir/Madam

JOINT BCA/SSSS CIRCULAR 2024
DESIGN GUIDE FOR SEMI-RIGID COMPOSITE JOINTS AND BEAMS (SECOND EDITION)

Objective

1 This circular is to inform the industry on the publication of the second edition of the 'Design Guide for Semi-rigid Composite Joints and Beams', which was jointly developed by the National University of Singapore, Singapore Structural Steel Society (SSSS) and Building and Construction Authority (BCA) to provide guidance for the design of various types of semi-rigid joints including steel beams connecting to reinforced concrete primary beams, beam-to-column joints, and beam-to-reinforced concrete wall joints.

Background

2 This design guide supersedes the first edition published in 2021, which was meant for bolted and welded steel connection without considering the benefit of composite action between the steel connection and steel reinforcements in the concrete/composite slab. Hence, this circular supersedes the earlier circular (Ref. No. APPBCA-2021-11) issued in June 2021.

Design Guide for Semi-Rigid Composite Joints and Beams (2nd Edition)

3 While the previous design guide primarily focused on beam-to-beam composite joints, this updated design guide broadens its application to include beam-to-column joints, steel beams connecting to reinforced concrete primary beams, and beam-to-reinforced concrete wall joints, all employing contact plates to enhance semi-rigidity.

4 This revised guide aims to provide structural engineers with confidence in using semi-rigid composite joints safely and economically, potentially reducing construction time and costs while ensuring adequate structural performance.

5 The design guide is available in softcopy at the respective websites of SSSS and BCA, namely

- http://www.ssss.org.sg/index.php?option=com_content&view=article&id=269&Itemid=75
- <https://go.gov.sg/semi-rigid-composite-joints-2nd-edition>

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

For Clarification

7 We would appreciate it if you could bring to the attention of your members the contents of this circular. Should you need any clarification, please submit your enquiry through BCA's Online Feedback Form at <https://www.bca.gov.sg/feedbackform/> or call us at 1800 342 5222.

Yours faithfully



LUNG HIAN HAO
DIRECTOR
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