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For enquiries, please contact:
Building Engineering Group (#12-01)
Tel: 1800 342 5222 (1800-DIAL-BCA)
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Dear Sir/Madam

JOINT BCA/SSSS CIRCULAR 2021 **DESIGN GUIDE FOR SEMI-RIGID COMPOSITE JOINTS AND BEAMS**

Objective

1 This circular is to inform the industry on the publication 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 BCA to provide guidance for (i) design of beam-to-beam composite joints, and (ii) secondary composite beams with composite joints.

Background

2 This design guide was developed to complement the previous publication on buildable steel connections¹. It aims to provide guidance on simple and buildable beam-to-beam connection in composite floor construction to achieve semi-rigid composite joint. Composite beams with semi-rigid composite joints can achieve more economical design and higher productivity.

Design Guide for Semi-Rigid Composite Joints and Beams

3 In composite floor construction, bolted fin plate connection is commonly used for beam-to-beam joint because it is simple and relatively easy to install at site as compared to a moment-resisting joint. This type of joint is nominally designed as a pin joint in practice and therefore, the secondary composite beam using this joint is designed as simply supported. The 'Design Guide for Semi-rigid Composite Joints and Beams' provides guidance on how to develop higher rotational stiffness and moment resistance for such joint. Practical application of semi-rigid composite joints as well as the design procedures for secondary composite

¹ 'Design Guide for Buildable Steel Connections' which was jointly published by SSSS and BCA in Jan 2020.

beams with semi-rigid composite joints are provided. The guide is in compliance with SS EN 1994-1-1 Section 8 and has been reviewed by local and international experts in the field of steel composite structures. This guide will be included in the list of acceptable design standards in the Approved Document and can be used for design of steel structures with immediate effect.

4 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=227&Itemid=75
- <https://go.gov.sg/design-guide-for-semi-rigid-composite-joints-and-beams-pdf>

For Clarification

5 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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for COMMISSIONER OF BUILDING
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