

# AD 357

## Flexural buckling of Tees to EC3

Clause BB.1 in BS EN 1993-1-1:2005 covers "Flexural buckling of members in triangulated and lattice structures". Specific guidance is given for Angles as web members (BB.1.2) and for Hollow sections as chord & web members (BB.1.3).

Although there is no specific guidance for flexural buckling of Tee sections, this Advisory desk note outlines two reasonable approaches.

The first is based on the criteria given in clause BB.1.1. of BS EN 1993-1-1.

For Tees used as chords and connected through the flange or stem: In plane and out-of-plane buckling lengths can be taken as the system length unless a smaller value can be justified by analysis (BB.1.1 (1)B).

For Tees used as web members connected through the flange or stem: The out-of-plane buckling length can be taken as the system length unless a smaller value can be justified by analysis (BB.1.1 (1)B).

For Tees used as web members connected through flange or stem: The in-

plane buckling length can be taken as 0.9 times the system length, provided there are at least 2 bolts at each end (BB.1.1 (3)B, (4)B) or the member is connected by welding.

Alternatively the following approach may be adopted, based on the principles of BS 5950-1:2000 (AMD 2007).

For a Tee section connected through its flange the slenderness may be calculated in accordance with clause 4.7.10.5.

For a Tee section connected through its stem the slenderness may be calculated in accordance with clause 4.7.10.3(c), (e), assuming  $\lambda_c = 0$ .

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Catalogue number **P355**  
ISBN number **978-1-85942-197-0**  
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Pagination **134 pp**  
Pages **A4 Paperback**  
Publication date **2011**

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