New and revised codes & standards

From BSI Updates March 2016

BS EN PUBLICATIONS

BS ISO 17577:2016
Steel. Ultrasonic testing of steel flat products of thickness equal to or greater than 6mm
Supersedes BS ISO 17577:2006

BRITISH STANDARDS REVIEWED AND CONFIRMED

BS EN 10055:1996
Hot rolled steel equal flange tees with radisused root and toes. Dimensions and tolerances on shape and dimensions

BRITISH STANDARDS UNDER REVIEW

BS EN ISO 3497:2001
Metallic coatings. Measurement of coating thickness. X-ray spectrometric methods

BS EN ISO 4014:2011
Hexagon head bolts. Product grades A and B

BE EN ISO 4016:2011
Hexagon head bolts. Product grade C

BS EN ISO 4018:2011
Hexagon head screws. Product grade C

BS EN ISO 14372:2011
Welding consumables. Determination of moisture resistance of manual metal arc welding electrodes by measurement

BS ISO 5952:2011
Continuously hot-rolled steel sheet of structural quality with improved atmospheric corrosion

BS ISO 9587:2007
Metallic and other inorganic coatings. Pretreatment of iron or steel to reduce the risk of hydrogen embrittlement

BS ISO 9588:2007
Metallic and other inorganic coatings. Post-coating treatments of iron or steel to reduce the risk of hydrogen embrittlement

BS ISO 10587:2000
Metallic and other inorganic coatings. Test for residual embrittlement in both metallic-coated and uncoated externally-threaded articles and rods. Inclined wedge method

NEW WORK STARTED

ISO 15653:2010/A1
(Edition 3)
Metallic materials. Method of test for the determination of quasistatic fracture toughness of welds

DRAFT BRITISH STANDARDS FOR PUBLIC COMMENT – ADOPTIONS

16/30314754 DC
BS EN ISO 10027-1 Designation systems for steels. Part 1. Steel names
Comments for the above document are required by 30 April 2016

16/20323232 DC
BS EN ISO 3580 Welding consumables. Covered electrodes for manual metal arc welding of creep-resisting steels. Classification
Comments for the above document were required by 21 March 2016

16/30323238 DC
BS EN ISO 17633 Welding consumables. Tubular cored electrodes and rods for gas shielded and non-gas shielded metal arc welding of stainless and heat-resisting steels. Classification
Comments for the above document were required by 21 March 2016

AD 395: Nominally pinned connections and axial forces

SCI is aware of a number of problems arising when the designers of structural frames have assumed "nominally pinned" connections in the frame design, but also require the connections to carry significant axial forces. This AD note offers advice with the aim of avoiding costly disagreements between the frame designer and the connection designer.

The difficulty arises when shear and axial forces (usually in combination) are to be resisted by the connection which has been assumed in the frame design to be "nominally pinned". It should be emphasised that the axial forces are not tying forces (which would not be considered in combination with the shear forces) - they are "real" axial forces. Such axial forces may arise when floors are not assumed to act as diaphragms, or when beams must carry forces around voids, or for other reasons.

The frame designer is likely to design the columns as "columns in simple construction", with nominal moments (only) due to the assumed eccentricity of the beam shear force. Special provisions are made in BS 5950-1:2000 (clause 4.7.7) and for BS EN 1993-1-1:2005 in NCCI (SN005 and SN048, www.steelbiz.org) for this common approach to column design.

If significant axial forces must be carried through the connection, it is highly likely that the relatively thin end plates (or fin plates) used in the standard nominally pinned connections will have to be increased in thickness. Plates may need extending, or other measures taken, but it is very likely that the principles governing the detailing of flexible connections cannot be maintained. A second, more easily addressed problem, is that the Green Books (SCI P212 and P358) do not cover the situation when connections are subject to shear and axial forces. The checks for tying resistance are (a) completed in isolation, without shear force and (b) assume irreversible deformation in the connection components, so cannot be used directly to consider "real" axial force in combination with shear force.

SCI has two recommendations in these circumstances, with the primary responsibility lying with the designer of the frame:

Firstly, the frame designer must recognise that if the connections must transfer shear and significant axial force, they may not be nominally pinned. This will have an impact on the design of the columns.

Secondly, if connection designers are asked to design nominally pinned connections subject to shear and significant axial force, they should advise the frame designer of the connection detail, pointing out that this may invalidate the assumptions made. This second recommendation is made to try and resolve potential problems before they become a significant issue.

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