AD 480:
Correction to P399 Appendix F Worked Example

It has been brought to our attention that in the worked example presented in SCI publication P399 Design of steel portal frame buildings to Eurocode 3, the position of the intermediate lateral restraint determined in section F3.5.4 *Plastic verification of the haunch*, has been miscalculated.

In section F3.5.4 the necessary steps in the verification of the haunched part of the portal frame rafter are presented, assuming a plastic hinge is present in the rafter at the sharp end of the haunch. The verification assumes a torsional restraint at the plastic hinge and finds the position of a second torsional restraint to the haunch at a distance L_s from the plastic hinge. An intermediate lateral restraint to the top (tension) flange is required between the torsional restraints at a distance Lm from the plastic hinge. Further tension flange restraints may also be required.

Finding L_m involves satisfying equation BB.9 in BS EN 1993-1-1 para. BB.3.2.1:

$$L_m = \frac{38 i_z}{\sqrt{\frac{1}{57.4}\left(\frac{N_{ed}}{A}\right) + \frac{1}{756 C_1^2}\left(\frac{W_{pl,y}^2}{A I_T}\right)\left(\frac{f_y}{235}\right)^2}}$$

Parameter A is defined as the cross sectional area in mm² at the location where the quotient $\left(\frac{W_{pl,y}^2}{A I_T}\right)$ is a maximum of the tapered member (ie in the length L_s).

$\left(\frac{W_{pl,y}^2}{A I_T}\right)$ is defined as the maximum value in the segment (ie in the length L_m).

Finding L_m involves iteratively assuming a trial length to determine the parameters in the equation and comparing the calculated value with the trial value. In the example, in determining the length L_m, the quotient $\left(\frac{W_{pl,y}^2}{A I_T}\right)$ was taken as the value at the position defined by L_s in error. The value of the quotient should be taken as that at the trial length L_m. Adopting the value at L_s results in a smaller value of L_m which is on the safe side.

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New and revised codes and standards

From BSI Updates February 2022

BS EN PUBLICATIONS

BS EN ISO 10675-1:2021
Non-destructive testing of welds. Acceptance levels for radiographic testing. Steel, nickel, titanium and their alloys
supersedes BS EN ISO 10675-1:2016

PUBLISHED DOCUMENTS

PD ISO/TR 20413:2021
Fire safety engineering. Survey of performance-based fire safety design practices in different countries
no current standard is superseded

BRITISH STANDARDS REVIEWED AND CONFIRMED

BS EN ISO 8565:2011
Metals and alloys. Atmospheric corrosion testing. General requirements

NEW WORK STARTED

EN 1364-6
Fire resistance tests for non-loadbearing elements. Cavity Barriers
will supersede None

EN ISO 1518-1
Paints and varnishes. Determination of scratch resistance. Constant-loading method
will supersede BS EN ISO 1518-1:2011

EN ISO 7784-1
Paints and varnishes. Determination of resistance to abrasion. Method with abrasive paper covered wheels and rotating test specimen
will supersede BS EN ISO 7784-1:2016

EN ISO 7784-2
Paints and varnishes. Determination of resistance to abrasion. Method with abrasive rubber wheels and rotating test specimen
will supersede BS EN ISO 7784-2:2016

EN ISO 6508-1
Metallic materials. Rockwell hardness test. Test method
will supersede BS EN ISO 6508-1:2016

EN 10025-4:2019/A1
Hot rolled products of structural steels. Technical delivery conditions for thermomechanical rolled weldable fine grain structural steels
will supersede None

EN 10025-6:2019/A1
Hot rolled products of structural steels. Technical delivery conditions for flat products of high yield strength structural steels in the quenched and tempered condition
will supersede None

EN ISO 11125-9
Preparation of steel substrates before application of paints and related products. Test methods for metallic blast cleaning abrasives. Wear testing and performance
will supersede None