

# SCOSS – Standing Committee on Structural Safety

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## THE STRUCTURAL EUROCODES: ISSUES WHICH MAY GIVE RISE TO MISUNDERSTANDINGS

For most engineers the Eurocodes will initially represent an unfamiliar set of design codes; it will take some time for the nomenclature, approach, and design philosophy to become as embedded and familiar as those currently adopted by British Standards. However, this is a challenge that structural engineers should be able to take in their stride.

Notwithstanding, in the interim period, the likelihood of making an error is increased. This note schedules specific issues which, inadvertently, could give rise to such an error. Over time they will become widely known and the need to highlight them will cease.

The issues highlighted below will also appear on the 'FAQ' section of [www.eurocodes.co.uk](http://www.eurocodes.co.uk)

	Issue	Comment
1	Use of ',' in lieu of '.' To denote the decimal point	The comma is used throughout the Eurocodes to denote the decimal point. It has also started to be used in guidance and manufacturers' literature.
2	Units	Not everyone uses 'N' or 'kN'. Practice on the continent includes the use of 'Deca-newtons'. (Not strictly a Eurocode issue but one that emanates from greater interaction with other countries).
3	BS EN1990 Clause 1.3 (assumptions 2 and 3) Definition of 'execution'	Note that the use of the word 'execution' is in the general dictionary sense and includes all project stages. Elsewhere in the Eurocodes, 'execution' relates to work on site, constructing products off-site, and their erection.
4	In EN1993 the direction of the x-x and y-y axes has been re-configured to give an orientation which reflects the use of three orthogonal (x, y, z) axes.	This means that the traditional 'major' x-x axis of steel members, is usually designated 'y-y' and the 'minor' axis 'z-z'. Particular care will be needed when: <ul style="list-style-type: none"><li>• referring to section tables and other guidance that are written for current use, but being used for an EN based design or software.</li><li>• referring to section tables and other guidance that are written to EN convention, but being used for BS based design or software.</li><li>• interfacing with other analyses</li><li>• communicating with others</li></ul>

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The Standing Committee on Structural Safety is an independent body supported by the Institutions of Civil and Structural Engineers and the Health & Safety Executive to maintain a continuing review of building and civil engineering matters affecting the safety of structures.

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5	In EN 1995 (Timber design)	<p>BS 5268 starts from long term permissible stresses and modifies these values upwards for shorter durations of load by the factor K3. However, EN5 starts with the characteristic value (effectively the value achieved in a short time duration test) and modifies this value down by the factor kmod for longer durations of load (typically 0.6 x characteristic value for permanent duration of load)</p> <p>If designers forget to use K3 in a BS 5268 design they are erring on the safe side, whereas omission of kmod in EC5 designs will lead to grossly unsafe designs.</p>
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SC/07/35B  
May 2007