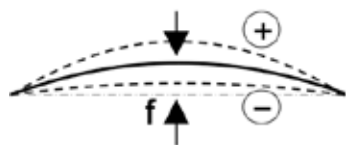


AD 465:

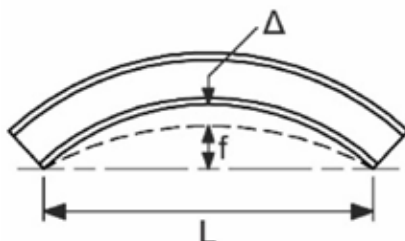
Amendment to clauses on negative tolerances on cambers in the National Structural Steelwork Specification

Engineers generally specify cambers on steel beams to reduce deflection under self-weight. However, when specifying cambers, they should carefully consider the tolerances, especially the negative tolerance ($-\Delta$). For example, in the case of long span beams the negative tolerance can be so large that the beam loses its theoretical camber (f) and is curved in the opposite direction.



In the 6th Edition of the National Structural Steelwork Specification (NSSS), Clauses 7.2.6, 7.4.9 and 7.5.8 required the tolerances on camber to be $\pm L/500$ or 6mm whichever is greater. During the development of the 7th Edition of the NSSS it was recognised that a tighter negative tolerance is necessary to achieve the required camber, and consequently the 7th Edition specified a zero

negative tolerance on cambers. An extract from clauses 7.2.6, 7.4.9 and 7.5.8 of the 7th Edition is given below:



Deviation from intended curve or camber f at middle of length L of curved portion when measured with the web horizontal.

$-\Delta = 0$

$+\Delta = L/500$ or 6mm whichever is greater

This is a more onerous requirement than criterion No. 4 in Table B.6 of BS EN 1090-2:2018, which stipulates the following functional tolerances:

- For Class 1, $-\Delta = L/500$ or 6mm whichever is greater

- For Class 2, $-\Delta = L/1000$ or 4mm whichever is greater

Steelwork contractors are finding that in many cases the zero negative tolerance is difficult to achieve and requires more expensive cambering techniques. For long-span beams the Class 1 negative tolerances given in BS EN 1090-2 may not be appropriate because, as explained above, it can result in the beam cambering in the wrong direction. To avoid this situation the more stringent class 2 tolerances from Table B.6 of BS EN 1090-2:2018 for the negative tolerance limit should be adopted in Clauses 7.2.6, 7.4.9 and 7.5.8 of the 7th Edition of the NSSS. The change to the negative tolerance in 7.2.6, 7.4.9 and 7.5.8 is given below.

$-\Delta = L/1000$ or 4 mm, whichever is greater

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New and revised codes and standards

From BSI Updates June 2021

BS EN PUBLICATIONS

BS EN ISO 3834-2:2021

Quality requirements for fusion welding of metallic materials. Comprehensive quality requirements
supersedes BS EN ISO 3834-2:2005

BS EN ISO 3834-3:2021

Quality requirements for fusion welding of metallic materials. Standard quality requirements
supersedes BS EN ISO 3834-3:2005

BS EN ISO 3834-4:2021

Quality requirements for fusion welding of metallic materials. Elementary quality requirements
supersedes BS EN ISO 3834-4:2005

BS EN ISO 4518:2021

Metallic coatings. Measurement of coating thickness. Profilometric method
supersedes BS EN ISO 4518:1995

BS EN ISO 10140-2:2021

Acoustics. Laboratory measurement of sound insulation of building elements. Measurement of airborne sound insulation
supersedes BS EN ISO 10140-2:2010

BS EN ISO 10140-3:2021

Acoustics. Laboratory measurement of sound insulation of building elements. Measurement of impact sound insulation
supersedes BS EN ISO 10140-3:2010+A1:2015

BS EN ISO 10140-4:2021

Acoustics. Laboratory measurement of sound insulation of building elements. Measurement procedures and requirements
supersedes BS EN ISO 10140-4:2010

BS EN ISO 10140-5:2021

Acoustics. Laboratory measurement of sound insulation of building elements. Requirements for test facilities and equipment
supersedes BS EN ISO 10140-5:2010+A1:2014

BS IMPLEMENTATIONS

BS ISO 4301-3:2021

Cranes. Classification. Tower cranes
no current standard is superseded

BS ISO 22955:2021

Acoustics. Acoustic quality of open office spaces
no current standard is superseded

BRITISH STANDARDS REVIEWED AND CONFIRMED

BS EN ISO 9000:2015

Quality management systems. Fundamentals and vocabulary

BS ISO 16732-1:2012

Fire safety engineering. Fire risk assessment. General

NEW WORK STARTED

EN ISO 14732

Welding personnel. Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials
will supersede BS EN ISO 14732:2013

DRAFT BRITISH STANDARDS FOR PUBLIC COMMENT - ADOPTIONS

21/30425647 DC

BS EN 17662 Execution of steel structures and aluminium structures. Environmental Product Declarations. Product category rules complementary to EN 15804 for Steel, Iron and Aluminium structural products for use in construction works

Comments for the above document were required by 29 June, 2021