

Steel products with improved deformation properties perpendicular to the surface of the product — Technical delivery conditions

The European Standard EN 10164:2004 has the status of a
British Standard

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee ISE/12, Structural steels, which has the responsibility to:

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English version

**Steel products with improved deformation properties
perpendicular to the surface of the product - Technical delivery
conditions**

Aciers de construction à caractéristiques de déformation
améliorées dans le sens perpendiculaire à la surface du
produit - Conditions techniques de livraison

Stahlerzeugnisse mit verbesserten
Verformungseigenschaften senkrecht zur
Erzeugnisoberfläche - Technische Lieferbedingungen

This European Standard was approved by CEN on 4 November 2004.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document (EN 10164:2004) has been prepared by Technical Committee ECISS/TC 10 “Structural steels – Grades and qualities”, the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2005, and conflicting national standards shall be withdrawn at the latest by June 2005.

This document supersedes EN 10164:1993, *Steel products with improved deformation properties perpendicular to the surface of the product - Technical delivery conditions*.

During the 5 year review of EN 10164:1993 the members of ECISS/TC 10 agreed to revise EN 10164:1993. It was asked to actualise the normative references and to bring the text in line with “Iron and steel standardization – Model for a product standard”. In the scope the product thickness is increased to 400 mm to be in line with EN 10025-2. The upper yield strength is increased to 960 MPa to be in line with EN 10025-6.

This document includes a Bibliography.

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Introduction

Flat products and sections of steel as normally manufactured have deformation properties perpendicular to the surface (through thickness) which are different from those obtained in the surface direction. This anisotropy of the properties may lead to difficulties in welded structures, for instance lamellar tearing.

It is, however, possible to improve the through thickness properties by using additional steel making procedures.

Through thickness properties are characterized in this document by specified values for reduction of area in a through thickness tensile test.

There is no direct relationship between these values and the integrity of structures, because the risk of lamellar tearing is also basically influenced by the type of structure, weld design and welding procedure. The minimum values for reduction of area in this document cannot therefore by themselves be regarded as ensuring safety against occurrence of lamellar tearing.

However the reduction of area is a good general guide to lamellar tear resistance i.e. the risk of lamellar tearing decreases with increased reduction of area in the through thickness tensile test.