# Hot finished structural hollow sections of non-alloy and fine grain steels —

Part 1: Technical delivery conditions

The European Standard EN 10210-1:2006 has the status of a British Standard

ICS 77.140.75



### National foreword

This British Standard is the official English language version of EN 10210-1:2006. It supersedes BS EN 10210-1:1994 which is withdrawn.

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

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

### **Cross-references**

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled "International Standards Correspondence Index", or by using the "Search" facility of the *BSI Electronic Catalogue* or of British Standards Online.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

### Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 38, an inside back cover and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 May 2006

© BSI 2006

Amendments issued since publication

Amd. No.	Date	Comments

ISBN 0 580 46976 X

## EUROPEAN STANDARD NORME EUROPÉENNE

**EUROPÄISCHE NORM** 

EN 10210-1

April 2006

ICS 77.140.75

Supersedes EN 10210-1:1994

### **English Version**

# Hot finished structural hollow sections of non-alloy and fine grain steels - Part 1: Technical delivery conditions

Profils creux pour la construction finis à chaud en aciers non alliés et à grains fins - Partie 1 : Conditions techniques de livraison Warmgefertigte Hohlprofile für den Stahlbau aus unlegierten Baustählen und aus Feinkornbaustählen - Teil 1: Technische Lieferbedingungen

This European Standard was approved by CEN on 16 March 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

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

Cont	ents	Page
Forewo	ord	3
1	Scope	4
2	Normative references	4
3	Terms, definitions and symbols	5
3.1	Terms and definitions	
3.2	Symbols	
4 4.1	Classification and designation	
4.1 4.2	Designation	
5	Information to be obtained by the manufacturer	
5.1	Mandatory information	
5.2	Options	
5.3	Example of an order	
6 6.1	RequirementsGeneral	
6.2	Steel manufacturing process	
6.3	Structural hollow section manufacturing process	
6.4 6.5	Delivery condition	
6.6	Mechanical properties	
6.7	Technological properties	
6.8 6.9	Surface condition	
6.10	Tolerances and mass	
7	Inspection	12
7.1	Types of inspection	
7.2 7.3	Types of inspection document	
_	Sampling	
8 8.1	Frequency of tests	
8.2	Preparation of samples and test pieces	
9	Test methods	17
9.1	Chemical analysis	
9.2 9.3	Mechanical testsVisual inspection and dimensional check	
9.4	Non-destructive testing	
9.5	Retests, sorting and reprocessing	19
10	Marking	19
11	Evaluation of conformity	20
Annex	A (normative) Structural hollow sections of non-alloy quality steels — Chemical composition and mechanical properties	21
Annex	B (normative) Structural hollow sections of fine grain steels — Chemical composition and mechanical properties	23
Annex	C (normative) Location of samples and test pieces	26
Annex	D (normative) Evaluation of conformity	28
Annex	ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive	33
Biblion	graphy	

### **Foreword**

This European Standard (EN 10210-1:2006) 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 October 2006, and conflicting national standards shall be withdrawn at the latest by October 2006.

This European Standard supersedes EN 10210-1:1994.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this European Standard.

This standard consists of the following parts under the general title 'Hot finished structural hollow sections of non-alloy and fine grain steels':

- Part 1: Technical delivery conditions
- Part 2: Tolerances, dimensions and sectional properties

It forms part of a series of standards on hollow sections together with EN 10219-1 and 2, which are also under revision.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

### 1 Scope

This part of this European Standard specifies technical delivery conditions for hot finished hollow sections of circular, square, rectangular or elliptical forms and applies to hollow sections formed hot, with or without subsequent heat treatment, or formed cold with subsequent heat treatment to obtain equivalent metallurgical conditions to those obtained in the hot formed product.

Requirements for tolerances, dimensions and sectional properties are contained in EN 10210-2.

NOTE A range of material grades is specified in this standard and the user should select the grade appropriate to the intended use and service conditions. The grades and mechanical properties of the finished hollow sections are compatible with those in EN 10025-2 and EN 10025-3.

### 2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 287-1, Qualification test of welders - Fusion welding - Part 1: Steels

EN 10002-1, Metallic materials — Tensile testing — Part 1: Method of test at ambient temperature

EN 10020:2000, Definition and classification of grades of steel

EN 10021:1993, General technical delivery requirements for steel and iron products

EN 10027-1, Designation systems for steels — Part 1: Steel names

EN 10027-2, Designation systems for steels - Part 2: Numerical system

EN 10045-1, Metallic materials — Charpy impact test — Part 1: Test method

EN 10052:1993, Vocabulary of heat treatment terms for ferrous products

EN 10168, Steel products - Inspection documents - List of information and description

EN 10204, Metallic products — Types of inspection documents

EN 10210-2:2006, Hot finished structural hollow sections of non-alloy and fine grain steels - Part 2: Tolerances, dimensions and sectional properties

EN 10246-3, Non-destructive testing of steel tubes — Part 3: Automatic eddy current testing of seamless and welded (except submerged arc-welded) steel tubes for the detection of imperfections

EN 10246-5, Non-destructive testing of steel tubes — Part 5: Automatic full peripheral magnetic transducer/flux leakage testing of seamless and welded (except submerged arc welded) ferromagnetic steel tubes for the detection of longitudinal imperfections

EN 10246-8, Non-destructive testing of steel tubes — Part 8: Automatic ultrasonic testing of the weld seam of electric welded steel tubes for the detection of longitudinal imperfections