Külmsurvevormitud keevitatud konstruktsiooni-õõnesprofiilid mittelegeer- ja peeneteraterastest. Osa 1: Tehnilised tarnenõuded

Cold formed welded structural hollow sections of non-alloy and fine grain steels - Part 1: Technical delivery conditions

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 10219-1:2006 sisaldab Euroopa standardi EN 10219-1:2006 ingliskeelset teksti. Käesolev dokument on jõustatud 29.05.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 10219-1:2006 consists of the English text of the European standard EN 10219-1:2006. This document is endorsed on 29.05.2006 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This part of this European Standard specifies the technical delivery conditions for cold formed welded structural hollow sections of circular, square or rectangular forms and applies to structural hollow sections formed cold without subsequent heat treatment.	**Scope:** This part of this European Standard specifies the technical delivery conditions for cold formed welded structural hollow sections of circular, square or rectangular forms and applies to structural hollow sections formed cold without subsequent heat treatment.

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Cold formed welded structural hollow sections of non-alloy and fine grain steels - Part 1: Technical delivery conditions

Profils creux pour la construction soudés, formés à froid en aciers non alliés et à grains fins - Partie 1 : Conditions techniques de livraison

Kaltgefertigte geschweißte 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.

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Foreword

This European Standard (EN 10219-1:2006) 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 10219-1:1997.

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 'Cold formed welded 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 10210-1 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 the technical delivery conditions for cold formed welded structural hollow sections of circular, square or rectangular forms and applies to structural hollow sections formed cold without subsequent heat treatment.

Requirements for tolerances, dimensions and sectional properties are contained in EN 10219-2.

NOTE A range of steel grades is specified in this European 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 10219-2:2006, *Cold formed welded 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*

EN 10246-9, *Non-destructive testing of steel tubes — Part 9: Automatic ultrasonic testing of the weld seam of submerged arc-welded steel tubes for the detection of longitudinal and/or transverse imperfections*

EN 10246-10, *Non-destructive testing of steel tubes — Part 10: Radiographic testing of the weld seam of automatic fusion arc welded steel tubes for the detection of imperfections*

EN 10256, *Non-destructive testing of steel tubes - Qualification and competence of level 1 and 2 non-destructive testing personnel*

CR 10261, *ECISS Information Circular 11 – Iron and steel – Review of available methods of chemical analysis*

EN 10266:2003, *Steel tubes, fittings and steel structural hollow sections — Symbols and definitions of terms for use in product standards*

EN ISO 377, *Steel and steel products - Location and preparation of samples and test pieces for mechanical testing (ISO 377:1997)*

EN ISO 643, *Steels — Micrographic determination of the apparent grain size (ISO 643:2003)*

EN ISO 2566-1, *Steel — Conversion of elongation values — Part 1: Carbon and low alloy steels (ISO 2566-1:1984)*

EN ISO 9001:2000, *Quality management systems — Requirements (ISO 9001:2000)*

EN ISO 14284, *Steel and iron - Sampling and preparation of samples for the determination of chemical composition (ISO 14284:1996)*

EN ISO 15607, *Specification and qualification of welding procedures for metallic materials - General rules (ISO 15607:2003)*

EN ISO 15609-1, *Specification and qualification of welding procedures for metallic materials - Welding procedure specification - Part 1: Arc welding (ISO 15609-1:2004)*

EN ISO 15614-1, *Specification and qualification of welding procedures for metallic materials - Welding procedure test — Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys* (*ISO 15614-1:2004)*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purpose of this European Standard, the following terms and definitions apply in addition to or where different from those in EN 10020:2000, EN 10021:1993, EN 10052:1993 and EN 10266:2003.

3.1.1
cold forming
process where the main forming is done at ambient temperature

3.1.2
normalizing rolling
rolling process in which the final deformation is carried out in a certain temperature range leading to a material condition equivalent to that obtained after normalizing so that the specified values of the mechanical properties are retained even after subsequent normalizing

3.1.3
thermomechanical rolling
rolling process in which the final deformation is carried out in a certain temperature range leading to a material condition with certain properties which cannot be achieved or repeated by heat treatment alone

NOTE 1 Subsequent heating above 580 °C may lower the strength values.

NOTE 2 Thermomechanical rolling, leading to the delivery condition M, can include processes with an accelerated cooling rate, with or without tempering including self-tempering, but excluding direct quenching and quenching and tempering.

3.2 Symbols

For the purposes of this European Standard, the symbols defined in EN 10266:2003 apply.