



NSAI
Standards

Irish Standard
I.S. EN 10225-4:2019

Weldable structural steels for fixed offshore structures - Technical delivery conditions - Part 4: Cold formed welded hollow sections

I.S. EN 10225-4:2019

Incorporating amendments/corrigenda/National Annexes issued since publication:

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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National Foreword

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EUROPEAN STANDARD

EN 10225-4

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May 2019

ICS 77.140.10; 77.140.75

Supersedes EN 10225:2009

English Version

Weldable structural steels for fixed offshore structures - Technical delivery conditions - Part 4: Cold formed welded hollow sections

Aciers de construction soudables destinés à la
fabrication de structures marines fixes - Conditions
techniques de livraison - Partie 4 : Profils creux soudés
formés à froid

Schweißgeeignete Baustähle für feststehende Offshore-
Konstruktionen - Technische Lieferbedingungen - Teil
4: Kaltgeformte geschweißte Hohlprofile

This European Standard was approved by CEN on 23 December 2018.

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European foreword

This document (EN 10225-4:2019) has been prepared by Technical Committee CEN/TC 459 “ECISS - European Committee for Iron and Steel Standardization”¹, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by November 2019, and conflicting national standards shall be withdrawn at the latest by November 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document, together with EN 10225-1:2019, EN 10225-2:2019, and EN 10225-3:2019, supersedes EN 10225:2009.

This European Standard consists of the following parts, under the general title ‘*Weldable structural steels for fixed offshore structures – Technical delivery conditions*’:

- Part 1: Plates
- Part 2: Sections
- Part 3: Hot finished hollow sections
- Part 4: Cold formed welded hollow sections

In comparison to the previous edition following technical changes were made:

- welded cold formed hollow sections were only implicitly mentioned in the previous version. Because of the split of the standard into four parts now a separate part with full requirements to cold formed hollow sections for offshore structures is written;
- the steel names were adapted to EN 10027-1;
- former grades of group 3 are no longer listed, new options with the same enhanced properties have been introduced (**Options 2 and 3**);
- there is an Annex E concerning SAWH hollow sections and an Annex F concerning high strength square and rectangular HFW hollow sections, since the application of these hollow sections needs more practical experience;
- an informative Annex G was added for the prequalification of steels for fixed offshore structures in arctic areas.

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

¹ Through its subcommittee SC 3 “Structural steels other than reinforcements” (secretariat: DIN)

EN 10225-4:2019 (E)

1 Scope

This document specifies requirements for submerged arc welded (SAW) and high frequency welded (HFW) cold formed hollow sections to be used in the fabrication of fixed offshore structures.

The thickness limit for SAWL circular hollow sections is up to and including 50,8 mm, for HFW circular hollow sections up to and including 25,4 mm and for HFW square and rectangular hollow sections up to and including 12,5 mm.

Greater thicknesses for SAWL hollow sections can be agreed provided the technical requirements of this European Standard are maintained.

NOTE 1 This document has an Annex E for SAWH round hollow sections with a thickness limit of 30,0 mm, and an Annex F for high strength square and rectangular HFW hollow sections made of steel grades S500 to S700.

This European Standard is applicable to steels for offshore structures designed to operate in the offshore sector but not to steels supplied for the fabrication of subsea pipelines, risers, process equipment, process piping and other utilities. It is primarily applicable to the North Sea Sector, but may also be applicable in other areas provided that due consideration is given to local conditions e.g. design temperature.

NOTE 2 This document has an informative Annex G on the prequalification of steels for fixed offshore structures in arctic areas.

Minimum yield strengths up to 700 MPa are specified together with impact properties at temperatures down to $-40\text{ }^{\circ}\text{C}$.

NOTE 3 A range of material grades is specified in this standard and the user can select the grade most appropriate to the intended use and its service condition.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1011-1, *Welding — Recommendations for welding of metallic materials — Part 1: General guidance for arc welding*

EN 10020, *Definition and classification of grades of steel*

EN 10021, *General technical delivery conditions for steel products*

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

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

EN 10079, *Definition of steel products*

EN 10160, *Ultrasonic testing of steel flat product of thickness equal or greater than 6 mm (reflection method)*

EN 10164, *Steel products with improved deformation properties perpendicular to the surface of the product - Technical delivery conditions*

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

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