



BSI Standards Publication

Steel forgings for pressure purposes

Part 5: Martensitic, austenitic and austenitic-ferritic stainless steels

National foreword

This British Standard is the UK implementation of EN 10222-5:2017. It supersedes BS EN 10222-5:2000, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee ISE/111, Steel Castings and Forgings.

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

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

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English Version

Steel forgings for pressure purposes - Part 5: Martensitic, austenitic and austenitic-ferritic stainless steels

Pièces forgées en acier pour appareils à pression -
Partie 5: Aciers inoxydables austénitiques
martensitiques et austéno-ferritiques

Schmiedestücke aus Stahl für Druckbehälter - Teil 5:
Martensitische, austenitische und austenitische-
ferritisch nichtrostende Stähle

This European Standard was approved by CEN on 25 December 2016.

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| Contents | Page |
|---|-------------|
| European foreword..... | 3 |
| 1 Scope | 4 |
| 2 Normative references | 4 |
| 3 Terms and definitions | 4 |
| 4 Classification and designation..... | 4 |
| 4.1 Classification..... | 4 |
| 4.2 Designation..... | 4 |
| 5 Information to be supplied by the purchaser | 5 |
| 5.1 Mandatory information | 5 |
| 5.2 Options..... | 5 |
| 6 Requirements | 5 |
| 6.1 Steelmaking process and manufacture of the product..... | 5 |
| 6.2 Delivery condition | 5 |
| 6.3 Chemical composition and chemical corrosion properties | 5 |
| 6.3.1 Cast analysis..... | 5 |
| 6.3.2 Product analysis | 5 |
| 6.3.3 Resistance to intergranular corrosion | 5 |
| 6.4 Mechanical properties..... | 6 |
| 6.5 Surface condition | 6 |
| 6.6 Internal soundness..... | 6 |
| 6.7 Physical properties..... | 6 |
| 6.8 Post weld heat treatment..... | 6 |
| 7 Inspection | 6 |
| 8 Sampling..... | 6 |
| 9 Test methods | 6 |
| 10 Retests..... | 6 |
| 11 Marking..... | 6 |
| Annex A (informative) Reference data for creep rupture strength | 20 |
| Annex B (informative) Post weld heat treatment..... | 25 |
| Annex C (informative) Significant technical changes to the version EN 10222-5:1999 | 27 |
| Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2014/68/EU | 28 |
| Bibliography..... | 29 |

European foreword

This document (EN 10222-5:2017) has been prepared by Technical Committee ECISS/TC 111 “Steel castings and forgings”, 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 October 2017, and conflicting national standards shall be withdrawn at the latest by October 2017.

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 supersedes EN 10222-5:1999.

This document 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 2014/68/EU.

For relationship with EU Directive 2014/68/EU, see informative Annex ZA, which is an integral part of this document.

EN 10222 consists of the following parts under the general title “*Steel forgings for pressure purposes*”:

- *Part 1: General requirements for open die forgings*
- *Part 2: Ferritic and martensitic steels with specified elevated temperature properties*
- *Part 3: Nickel steels with specified low temperature properties*
- *Part 4: Weldable fine grain steels with high proof strength*
- *Part 5: Martensitic, austenitic and austenitic-ferritic stainless steels.*

Annex C provides details about significant technical changes to EN 10222-5:1999.

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 Scope

This European Standard specifies the technical delivery conditions for forgings for pressure purposes, made of stainless steels, including creep resisting steels. Chemical composition and mechanical properties are specified.

NOTE Once this standard is published in the EU Official Journal (OJEU) under Directive 2014/68/EU, presumption of conformity to the Essential Safety Requirements (ESRs) of Directive 2014/68/EU is limited to technical data of materials in this standard and does not presume adequacy of the material to a specific item of equipment. Consequently, the assessment of the technical data stated in this material standard against the design requirements of this specific item of equipment to verify that the ESRs of Directive 2014/68/EU are satisfied, needs to be done. The series EN 10222-1 to EN 10222-5 is structured so that the data related to different materials is in the part allocated for that material. The presumption of conformity to the Essential Safety Requirements of Directive 2014/68/EU depends on both the text in part 1 and the data in part 2, 3, 4 or 5.

General information on technical delivery conditions is given in EN 10021.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 10088-1:2014, *Stainless steels - Part 1: List of stainless steels*

EN 10222-1:2017, *Steel forgings for pressure purposes — Part 1: General requirements for open die forgings*

EN ISO 3651-2:1998, *Determination of resistance to intergranular corrosion of stainless steels - Part 2: Ferritic, austenitic and ferritic-austenitic (duplex) stainless steels - Corrosion test in media containing sulfuric acid (ISO 3651-2:1998)*

3 Terms and definitions

For the purpose of this document, the terms and definitions given in EN 10222-1:2017 apply.

4 Classification and designation

4.1 Classification

The steel grades covered in this document are classified according to their structure into:

- martensitic steels;
- austenitic steels;
- austenitic-ferritic steels.

NOTE For more details see EN 10088-1.

4.2 Designation

See EN 10222-1:2017.