

- [Home Home](#)
- [About this portal](#)
- [Latest updates](#)

[Save](#)

[Resource detail](#)
[Citations](#)

NZS/BS 970.1:1991 Specification for wrought steels for mechanical and allied engineering purposes - General inspection and testing procedures and specific requirements for carbon, carbon manganese, alloy and stainless steels

[View on Information Provider website](#)

Abbreviation

NZS/BS 970.1:1991

Amendment

NZS/BS 970.1:1991 A1 . - This amendment must be purchased separately. Published 14/10/1992.

Valid from

28/11/1991

Information provider

Standards New Zealand

Author

British Standards Institution

Information type

New Zealand Standard

Format

PDF

Cited By

[This resource is cited by 3 documents \(show Citations\)](#)

Cites

[This resource cites 15 documents \(show Citations\)](#)

Description

Requirements for steelmaking and general testing procedures for the release of steel in the form of blooms, billets, slabs, bars, rods and forgings used in the as-rolled, as-forged, annealed or normalized condition.

Scope

Section 1 of this part of BS 970 specifies the requirements for steelmaking and general testing and inspection procedures for the release of steel in the form of blooms, billets, slabs, bars, rods and forgings, used in the as-rolled, as-forged or softened condition as appropriate and in accordance with the specific requirements for the steels in sections 2 to 5 inclusive.

This standard applies to stainless steels only in the form of forgings but to the heat resisting steel 310S31 in both rolled and forged product forms. Sections 2-6 cover specific requirements for the supply of steels as follows:

- Section 2: As-rolled and as-rolled and softened steels and microalloyed carbon manganese steels;

- Section 3: Steels for surface hardening by nitriding;
- Section 4: Case hardening steels;
- Section 5: Stainless and heat resisting steels; and
- Section 6: Specifies sizes and tolerances.

For assistance with locating previous versions, please contact the information provider.

[Table of Contents](#) [View on Information Provider website](#) `{{ linkText }}`

For assistance with locating previous versions, please contact the information provider.

This resource is cited by:

NZS/BS 970.1:1991 Specification for wrought steels for mechanical and allied engineering purposes - General inspection and testing procedures and specific requirements for carbon, carbon manganese, alloy and stainless steels

This document is CITED BY:

- [E1/AS1 \(First Edition, Amendment 10\)](#)

NZS/BS 970.1:1991 is cited by Acceptable Solution E1/AS1: Surface Water from 01/09/1993

- [E1/AS1 \(First Edition, Amendment 9\)](#)

NZS/BS 970.1:1991 is cited by Acceptable Solution E1/AS1: Surface Water from 01/09/1993

- [E1/AS1 \(First Edition, Amendment 8\)](#)

NZS/BS 970.1:1991 is cited by Acceptable Solution E1/AS1: Surface Water from 01/09/1993

[Back](#)

NZS/BS 970.1:1991 Specification for wrought steels for mechanical and allied engineering purposes - General inspection and testing procedures and specific requirements for carbon, carbon manganese, alloy and stainless steels

[Show what documents this resource is CITED BY](#)

[Show what documents this resource CITES](#)

Description

Requirements for steelmaking and general testing procedures for the release of steel in the form of blooms, billets, slabs, bars, rods and forgings used in the as-rolled, as-forged, annealed or normalized condition.

[View on Information Provider website](#)

[NZS/BS 970.1:1991 Specification for wrought steels for mechanical and allied engineering purposes - General inspection and testing procedures and specific requirements for carbon, carbon manganese, alloy and stainless steels](#)

Description

Requirements for steelmaking and general testing procedures for the release of steel in the form of blooms, billets, slabs, bars, rods and forgings used in the as-rolled, as-forged, annealed or normalized condition.

[View on Information Provider website](#)

This resource cites:

NZS/BS 970.1:1991 Specification for wrought steels for mechanical and allied

engineering purposes - General inspection and testing procedures and specific requirements for carbon, carbon manganese, alloy and stainless steels

This document CITES:

Other

- [BS 131-1:1961](#)

NZS/BS 970.1:1991 cites BS 131-1:1961 (R2015) Methods for notched bar tests - Part 1: The Izod impact test on metals

- [BS 1837:1970](#)

NZS/BS 970.1:1991 cites BS 1837:1970 Methods for the sampling of iron, steel, permanent magnet alloys and ferro-alloys

- [BS 240:1986](#)

NZS/BS 970.1:1991 cites BS 240:1986 Method for Brinell hardness test and for verification of Brinell hardness testing machines

- [BS 4114:1967](#)

NZS/BS 970.1:1991 cites BS 4114:1967 Specification for dimensional and quantity tolerances for steel drop and press forgings and for upset forgings made on horizontal forging machines

- [BS 427:1990](#)

NZS/BS 970.1:1991 cites BS 427:1990 Method for Vickers hardness test and for verification of Vickers hardness testing machines

- [BS 4437:1987](#)

NZS/BS 970.1:1991 cites BS 4437:1987 Method for determining hardenability of steel by end quenching (Jominy test)

- [BS 4490:1989](#)

NZS/BS 970.1:1991 cites BS 4490:1989 Methods for micrographic determination of the grain size of steel

- [BS 5903:1980](#)

NZS/BS 970.1:1991 cites BS 5903:1980 Method for determination of resistance to intergranular corrosion of austenitic stainless steels: copper sulphate-sulphuric acid method (Money penny Strauss test)

- [BS 6722:1986](#)

NZS/BS 970.1:1991 cites BS 6722:1986 Recommendations for dimensions of metallic materials

- [BS 891:1989](#)

NZS/BS 970.1:1991 cites BS 891:1989 Methods for hardness test (Rockwell method) and for verification of hardness testing machines (Rockwell method)

- [BS EN 10002-1:1990](#)

NZS/BS 970.1:1991 cites BS EN 10002-1:1990 Tensile testing of metallic materials. Method of test at ambient temperature

- [BS EN 10045-1:1990](#)

NZS/BS 970.1:1991 cites BS EN 10045-1:1990 Charpy impact test on metallic materials. Test method (V- and U-notches)

- [BS HBK19:ADDPKT1:1970](#)

NZS/BS 970.1:1991 cites BS HBK19:ADDPKT1:1970 Methods For The Sampling And Analysis Of Iron, Steel And Other Ferrous Metals - Addendum Packet Number 1

- [BS HBK19:ADDPKT2:1970](#)

- [BS HBK19:ADDPKT3:1970](#)

Back

Close

Table of Contents

Section 1 General inspection and testing procedure

1.1 Scope

1.2 References

1.3 Definitions

1.4 Symbols

1.5 General

1.6 Information to be supplied by the purchaser

1.7 Steelmaking and casting process

1.8 Chemical composition

1.9 Product analysis and permitted variations

1.10 Freedom from defects

1.11 Condition of material on delivery

1.12 Heat treatment

1.13 Mechanical properties

1.14 Selection and preparation of material for mechanical testing

1.15 Frequency of other tests

1.16 Test methods and test results

1.17 Retests

1.18 Inspection

1.19 Manufacturer's statement

1.20 Marking

Section 2 Specific requirements for as-rolled, as-rolled and softened and micro-alloyed carbon manganese steels

2.1 Specific requirements for as-rolled, and as-rolled and softened steels

2.2 Specific requirements for micro-alloyed carbon manganese steels

Section 3 Specific requirements for steels for surface hardening by nitriding

Section 4 Specific requirements for case hardening steels

Section 5 Specific requirements for stainless and heat resisting steels

Section 6 Specific requirements for sizes and tolerances

6.1 Sizes

6.2 Mass/unit length tolerances

6.3 Dimensional tolerances

6.4 Straightness

6.5 Length

Annex A Hardenability curves for case hardening steels

Annex B Deoxidation of steel

Figures

A.1 Hardenability curves for case hardening steels

A.1.1 Alloy steels

Tables

1 Sulfur and phosphorous composition of steels

2 Incidental percentages of elements in steels

3 Permitted variations of product analysis from specified range

4 As-rolled and as-rolled and softened steels: chemical composition and mechanical property requirements

5 Micro-alloyed carbon manganese steels: chemical composition and mechanical property requirements

6 Steel for surface hardening by nitriding: chemical composition

7 Case hardening alloy steels: chemical composition and hardenability requirements

8 Case hardening steels: chemical composition and mechanical property requirements

9 Case hardening steels: heat treatment and maximum hardness requirements

10 Ferritic and martensitic stainless and heat resisting steels in the form of forgings: chemical composition, heat treatment and mechanical property requirements

11 Austenitic stainless and heat resisting steels in the form of forgings and heat resisting steel 310S31 in all product forms: chemical composition, softening treatment and mechanical property requirements

12 Billets (other than stainless steel) for forging: standard mass per metre and tolerances

13 Tolerances for hot rolled round and square bar and rough turned rounds

14 Tolerances for hot rolled hexagonal bar

15 Tolerances for hot rolled flat bar

[Save](#)

[Feedback](#)

- [Contact us](#)
- [Privacy policy](#)
- [Disclaimer](#)
- [Copyright](#)

[Feedback](#)