BRITISH STANDARD

BS 1449-2: 1983

(Incorporating Amendment Nos. 1, 2, 3 and 4)

Steel plate, sheet and strip —

Part 2: Specification for stainless and heat-resisting steel plate, sheet and strip

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Committees responsible for this British Standard

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Cold Rolled Sections Association
British Internal Combustion Engine Manufacturers' Association
British Railways Board
British Steel Industry
Institution of Production Engineers
Society of Motor Manufacturers and Traders Limited

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

Institute of Sheet Metal Engineering
National Association of Steel Stockholders
Process Plant Association
Stainless Steel Fabricators' Association of GB

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Contents

Foreword

This Part of BS 1449, prepared under the direction of the Iron and Steel Standards Committee, is a revision of BS 1449-2:1975 which is withdrawn. It constitutes a general updating of the requirements for stainless and heat-resisting steels, in line with moves towards international harmonization of these materials.

Included for the first time are definitions, based on those agreed internationally, for the terms used and, additionally, a clause for the identification and marking of the material. The tabular presentation of the specific requirements for particular steel grades has been simplified.

The other Part of this standard is:

— *Part 1: Specification for carbon steel plate, sheet and strip.*

For corrosion and heat-resisting stainless steel plates for fired and unfired pressure vessels, reference should be made to BS 1501-3, and for stainless steel strip for springs, reference should be made to BS 5770-4.

This Part of BS 1449 has been amended to take into account the publication of the following European Standards:

EN 10029, *Hot rolled steel plates 3 mm thick or above — Tolerances on dimensions, shape and mass.*

EN 10048, *Hot rolled narrow steel strip — Tolerances on dimensions and shape.*

EN 10051, *Continuously hot-rolled uncoated plate, sheet and strip of non-alloy and alloy steels — Tolerances on dimensions and shape.*

EN 10258, *Cold-rolled stainless steel and narrow strip and cut lengths — Tolerances on dimensions and shape.*

EN 10259, *Cold-rolled stainless steel wide strip and plate/sheet — Tolerances on dimensions and shape.*

As further European Standards are produced this British Standard will eventually be withdrawn.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their 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, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Section 1. General requirements

1.1 Scope

This Part of BS 1449 specifies material and dimensional requirements for hot rolled and cold rolled flat heat-resisting steel products in coil and cut length form. It also specifies dimensional requirements for hot rolled and cold rolled flat stainless steel products in coil and cut length form. It applies to plate from 3 mm up to 100 mm thick, wide strip, sheet from 0.30 mm to less than 3 mm thick, and narrow strip from 0.050 mm to less than 3.00 mm thick.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

1.2 Definitions

For the purposes of this British Standard the following definitions apply.

1.2.1
flat products

products of almost rectangular cross section with a width much greater than the thickness

1.2.2
hot rolled flat products

flat products produced by hot rolling

NOTE The very light cold rolling pass (sometimes called a skin pass, pinch pass or dressing pass), generally resulting in a reduction in thickness of less than 5 %, that is given to certain hot rolled flat products does not alter their classification as hot rolled finished products.

1.2.3
cold rolled flat products

flat products that have undergone a reduction in thickness of at least 25 % by cold rolling

NOTE A cold rolled flat product is normally annealed or softened following cold rolling, and subsequently may be skin passed or pinch passed.

1.2.4
temper rolled finished flat product

a cold rolled flat product to which, after annealing or softening, a final cold rolling reduction is applied in which the thickness is reduced by a controlled amount to achieve specified hardness or strength properties higher than those of the annealed or softened material. It is sometimes referred to as hard cold rolled

1.2.5
plate

a flat rolled product, the edges of which are allowed to deform freely during rolling, 3 mm to 100 mm thick, generally supplied in square or rectangular flat form but also in any other shape according to a design sketch. Plate may also be supplied in coil form or may be cut from the parent rolled product obtained by rolling of the ingot or semi-finished product

1.2.6
sheet

a flat rolled product, the edges of which are allowed to deform freely during rolling, less than 3 mm thick, generally supplied in square or rectangular flat form, but also in any other shape according to a design sketch

1.2.7 strip

A flat rolled product which immediately after the final rolling pass is wound into regular superimposed laps so as to form a coil with almost flat sides. Strip may be subsequently cut and supplied as sheet or cut lengths, or as coils of any narrower width.

1.2.7.1
wide strip

strip rolled at a width equal to or greater than 600 mm. When supplied in coil form it is sometimes referred to as sheet coil

1.2.7.1
narrow strip

strip rolled at a width less than 600 mm

1.3 General

The material shall comply with the relevant general requirements of this section, the relevant specific requirements of section 2 and the relevant tolerances on dimensions and permissible deviations in shape in section 3.

1.4 Information to be supplied by the purchaser[1)]

1.4.1 General. To assist the manufacturer in supplying the correct form of product and grade of material, etc., the following information shall be given in the enquiry and order:

a) the number of this British Standard and grade of steel, e.g. BS 1449-2, steel 310S24;

b) the form of product required, i.e. plate, sheet, or strip;

[1)] Information regarding manipulation, finishing or ultimate service conditions to which the material will be subjected is of assistance to the manufacturer in order that the most suitable material is supplied.

c) the condition in which the steel is to be supplied, if the softened condition is not required;

d) the nominal dimensions and quantity of the product required;

e) the surface finish required for each face of the material (see **1.7.2** and Table 1);

f) the condition in which the material is to be tested if tests are required in a condition other than the delivery condition [see item c)],

e.g. BS 1449-2, steel 310S24,
plate, 6 m × 2 m × 8 mm, 24 off, surface finish no. 1.

Table 1 — Surface finishes

Finish No.	Description	Notes
Mill finishes[a]		
0	Hot rolled and softened but not descaled	Suitable only for certain heat-resisting applications, as the presence of oxide scale impairs resistance to corrosion. Surface inspection is not practicable
1	Hot rolled, softened and descaled	Generally used when smoothness and uniformity of finish are not important. It is permissible for grinding marks to be present
2D	Cold rolled, softened and descaled	A uniform matt finish
2B	Cold rolled, softened, descaled and lightly rolled on polished rolls	A smooth finish for general applications, brighter than finish no. 2D
2A	Bright annealed (BA)	A cold rolled reflective finish retained through annealing
Mechanically polished finishes[b]		
3A	Ground	A uniform coarse ground finish generally obtained by treatment with abrasives of 80 to 100 grit size
3B	Dull buffed	A uniform straight grained finish, generally achieved in one pass, applied to a 2B or 2A mill finish; produced by polishing with 180 to 220 grit size abrasive belts
4	Polished with fine grit	The final polishing, generally produced by treatment with successively finer abrasives of 180 to 240 grit size, gives a unidirectional texture, not highly reflective
5	Fine polish	Polishing can be by one or more stages finishing with fine abrasive belt or roll to produce a clean cut having an R_a of 0.5 μm or less.
7	Bright buffed	A bright finish, generally applied to a 2B or 2A mill finish, by treatment with a fibre and/or cloth mop, as well as with a suitable polishing compound
8	Bright polished (see note 3 to **1.7.1**)	A bright reflective finish with a high degree of image clarity. Produced by polishing with successively finer grits followed by buffing with very fine polishing compounds

[a] Sheet and strip supplied with mill finishes may, unless otherwise agreed, be supplied with only one surface inspected to the required finish. In such instances the manufacturer should indicate the prime surface either by marking the material or the packaging or by some other agreed convention.

[b] Other polished finishes may also be available.

1.4.2 Options

1.4.2.1 There are a number of options incorporated in this Part of this British Standard. In the event that the purchaser does not indicate his wish to implement any of these options and specify his requirements at the time of the enquiry and order, the manufacturer shall implement the options as stated in **1.4.2.2** to **1.4.2.8**.

1.4.2.2 The manufacturer shall select the process to be used in making the steel and the ordered product (see **1.5**).

1.4.2.3 The manufacturer shall supply sheet and strip with only one surface inspected to the required standard (see footnote a to mill finishes in Table 1).

1.4.2.4 The manufacturer shall decide whether to provide any form of test certificate or inspection document (see **1.11**).

1.4.2.5 The manufacturer shall select an edge condition in accordance with **1.9**.

1.4.2.6 The manufacturer shall decide whether to report any elements additional to those specified in Table 4 of section 2 for the steel grade ordered (see **1.10.3**).

1.4.2.7 The manufacturer shall provide no marking additional to that required in **1.14**.

1.4.2.8 The manufacturer shall assume that no aspects of manufacture, inspection or testing are to be witnessed by the purchaser or his representative (see **1.15**).

1.5 Steelmaking process

Unless otherwise agreed at the time of ordering, the processes used in making the steel and the products shall be left to the discretion of the manufacturer. When requested by the purchaser, the manufacturer shall indicate the steelmaking process used.

1.6 Freedom from defects

1.6.1 General. The finished material shall be free from harmful defects.

1.6.2 Correction of minor surface defects

1.6.2.1 *Plate.* The manufacturer shall be permitted to remove minor surface defects by grinding provided that the requirements of **3.2.2.3** are fulfilled. Defects shall not be repaired by welding unless this is agreed between the manufacturer and the purchaser.

1.6.2.2 *Sheet and strip.* Minor surface defects shall not be removed by grinding unless it is agreed between the manufacturer and the purchaser.

1.6.3 Defects revealed after delivery. In the event of any complaint, the manufacturer shall have an opportunity to check the merit of the claim. The items involved shall remain available for this purpose. In particular, if defects appear after processing by the purchaser, the manufacturer shall have the opportunity to submit the products to an examination.

NOTE When coil is supplied, the degree or amount of surface defects may be expected to be more than in cut lengths because of the impossibility of rejecting portions of the coil. This should be taken into account by the purchaser in his assessment of the coil.

1.7 Surface finishes

1.7.1 The surface finishes given in Table 1 shall apply to material as supplied.

NOTE 1 Finish numbers 0, 1, 2A, 2B and 2D are produced during manufacture and are classified together as mill finishes. Nos. 3A, 3B, 4, 7 and 8 are produced by mechanical polishing.

NOTE 2 Some of the surface finishes in Table 1 may not be available on certain rolled products.

NOTE 3 For metallurgical reasons, no. 8 finish is not applicable to stainless steels stabilized with titanium or niobium.

1.7.2 It is possible for material to be supplied with different surface finishes on the two faces although only certain combinations of finish are possible; the finish required on each face shall therefore be stated on the order [see **1.4.1** e)].

1.8 Condition of material on delivery

The condition of material on delivery shall be the softened condition unless the order states that a different or alternative condition is to be supplied. The softening temperatures applicable shall be as detailed in Table 5 and Table 6.

NOTE 1 Material is normally supplied in the softened condition.

NOTE 2 Sheet, strip and thin plate (up to 6 mm thick) may be obtained with increased hardness and tensile strength achieved by temper rolling. The properties of steels in the temper rolled condition are to be agreed between the manufacturer and the purchaser. The properties of corrosion-resistant grades of steel strip for springs are specified in BS 5770-4.

NOTE 3 Unless otherwise agreed and stated in the order, it is permissible for the softening of hot rolled plates of 20 mm thickness and greater to be omitted, provided that the formation of undesirable carbide precipitates, sigma and other phases is avoided and that the specific requirements of section 2 applicable to steel grade are satisfied.

1.9 Edge conditions

1.9.1 Plate. The type of cutting process to be used for plate shall be decided by the manufacturer, unless a specific process is quoted on the enquiry and order.

1.9.2 Sheet and strip

1.9.2.1 *Coil form*. Coils shall be supplied with rotary sheared edges, unless a special edge condition is specified on the enquiry and order.

1.9.2.2 *Flat form.* The flat product shall be supplied with sheared or rotary sheared edges, unless a special edge condition is specified on the enquiry and order.

NOTE Special edge conditions, e.g. as-rolled edges, rolled round edges, slit and deburred edges, may be available for certain products.

1.10 Chemical composition

1.10.1 Cast analysis. The chemical composition of the steel, as determined by cast analysis, shall comply with the appropriate requirements of **2.1** and Table 4.

1.10.2 Product analysis and permitted variations. Since the analysis of a product may vary slightly due to heterogeneity occurring during solidification, for any product analysis, deviations from the specified composition range shall be permissible within the limits given in Table 2. These deviations shall apply either above or below the specified limits of the range, but not above and below for the same element from different sample product analyses from the same cast.

Table 2 — Permitted product analysis deviations from the specified composition

Element	When the maximum of the specified range is:	Permissible product analysis deviation from the specified composition
	%	%
C	≤ 0.15	0.01
Si	≤ 1.0	0.05
Mn	≤ 2.0	0.04
P	≤ 0.045	0.004
S	≤ 0.030	0.003
Cr	> 20.0	0.25
Ni	≤ 20.0 > 20.0	0.15 0.20

1.10.3 Incidental elements. Elements not quoted in the relevant material specification in section 2 shall not be intentionally added to the steel without the agreement of the purchaser, other than for the purpose of finishing the heat. During the finishing of the heat, it shall be permissible for very small amounts of boron to be used to aid hot workability of the austenitic steels. Reasonable precautions shall be taken to prevent the addition of harmful impurities from scrap or other material used in manufacture.

NOTE For special applications the purchaser, by agreement with the manufacturer, may specify a maximum content for one or more incidental elements or may require the amount of stated elements to be reported in the certificate of analysis, or both.

1.11 Testing and manufacturer's certificate

1.11.1 General. The manufacturer shall carry out tests to ensure that the material complies with the relevant requirements of this specification and to enable him to provide a test certificate in accordance with the order. When a certificate is required, the order shall state:

a) that a certificate is required;

b) the type of certificate required;

c) whether tests are to be reported and, if so, whether by cast or by lot or batch;

d) the tests, if any, that are to be certified in addition to the tensile test and hardness test.

The manufacturer shall then supply a certificate that contains the cast number and cast analysis of the steel, showing all elements specified for the steel grade. The certificate shall also contain the results of all tests required by the order and shall be signed or name stamped by a member of the department of the manufacturer which is responsible for the inspections and tests.

1.11.2 Number, selection and preparation of test samples

1.11.2.1 ***Number of tests***

1.11.2.1.1 *Cast tests.* When a cast test certificate is required, from each cast used a minimum of one test of each type required by the order shall be carried out on a sample of the appropriate product type, i.e. plate, sheet, wide strip or narrow strip, irrespective of the product dimensions and size of cast. For the cast test, as a minimum, the results of the tensile test and hardness test on the appropriate product type shall always be reported.

NOTE The results need not be obtained from tests from material actually included in the delivery batch.

1.11.2.1.2 *Tests by lot or batch.* When testing by lot or batch is required, this shall be stated in the order. Unless agreed differently between the manufacturer and the purchaser and detailed in the order, the number of tests shall be as given in Table 3.

1.11.2.2 *Selection of test samples.* When test samples are required they shall be taken from the product after processing, other than cutting to final size, is completed. They shall each be taken from near to an end of the product, but sufficiently far from it to avoid end effects not representative of the bulk of the product. The samples shall be taken from a position mid-way between the centre and a long edge of the product, or in the case of narrow strip it is permissible for them to be taken across the full product width.

Table 3 — Acceptance units for test by lot or batch

Product form and heat treatment method	Acceptance unit, lot or batch	Number of tests per acceptance unit
Products manufactured in the flat form, heat treated in batches or in continuous furnaces	The batch of pieces from the same cast and within 10 % of the same nominal thickness, treated together as one heat treatment batch or heat treated to the same procedure as a production run of up to 40 pieces Maximum batch mass is 25 tonnes	Piece length ⩽ 15 m and Piece mass ⩽ 3 000 kg: 1 test sample Piece length > 15 m or Piece mass > 3 000 kg: 2 samples, one from each end of a long, heavy piece
Products in coil form, continuously strand heat treated, for supply as coil or cut for supply in flat form	The batch of coils from the same cast and within 10 % of the same nominal thickness, heat treated to the same procedure as a production run of up to 5 coils Maximum batch mass is 25 tonnes	2 samples, one from each end of one coil
Products batch heat treated in coil form for supply as coil or cut for supply in the flat form	The heat treatment batch of coils from the same cast. Maximum batch mass is 25 tonnes	2 samples, one from each end of one coil

The samples shall be of sufficient size to provide test pieces for all of the required tests.

1.11.2.3 *Preparation of test samples.* From each test sample selected in accordance with **1.11.2.2** a tensile test piece shall be prepared. The tensile test piece shall be transverse to the direction of final rolling except in the case of narrow strip material when a longitudinal test piece shall be used. For flat products greater than or equal to 0.5 mm thick, the test pieces shall be in accordance with BS EN 10002-1.

The test sample for the hardness test shall be either a separate small test piece taken from a point adjacent to the tensile test sample, or the head of the tensile test piece, used prior to the tensile test.

The test pieces for any other type of test that is specified shall be prepared in accordance with the requirements of valid British Standards where these exist.

1.11.3 Mechanical tests

1.11.3.1 *Tensile tests.* Tensile tests shall be carried out in accordance with the requirements of BS EN 10002-1.

Where alternative gauge lengths of 50 mm and 5.65 $\sqrt{S_o}$ are given in the material specifications in **2.2.1** and Table 5 and Table 6, the choice of gauge length shall be at the manufacturer's discretion. The rate of straining of the tensile test piece shall be as follows.

a) The rate of increase of stress shall be not more than 10 N/mm^2 per second from a stress of approximately 45 N/mm^2 until the proof stress is reached.

b) In the plastic range, the strain rate shall be not more than 12.5 mm/min.

Should a test piece break outside the middle third of its gauge length, resulting in an elongation below the specified value, it shall be at the manufacturer's option to discard the test and make another from the same test sample or, if the specified values are obtained, to regard the test as valid, irrespective of the fracture position.

1.11.3.2 *Hardness test.* If required by the relevant material specification in section 2 of this Part of this standard, Vickers hardness tests shall be carried out in accordance with the requirements of BS 427-1.

NOTE If the material is of adequate thickness, it is permissible for a Brinell hardness test to be carried out in accordance with the requirements of BS 240-1 (see footnote to Table 5).

1.11.4 Intergranular corrosion test. If required by the purchaser and included in the relevant material specification given in **2.3**, one intergranular corrosion test per cast shall be made in accordance with BS 5903.

1.12 Retests

Should any of the original test pieces not fulfil the test requirements, two additional tests shall be made; one of the test pieces shall be taken from the material from which the original test sample was taken, unless that item has been withdrawn by the manufacturer. Should either of these additional tests fail, the material represented shall be deemed not to comply with the requirements of this British Standard.

1.13 Reheat treatment

The manufacturer shall have the right to heat treat or reheat treat any material, including material already found not to fulfil the test requirements, and resubmit it for testing.

1.14 Marking

Each piece or parcel of steel shall be legibly marked with the manufacturer's name or trademark, the order number against which it has been supplied and, if a test certificate is to be supplied, the identification marks by which the steel can be traced to the relevant test certificate.

When relevant (see footnote a to Table 1), it shall also be marked to indicate the prime surface.

NOTE Any additional or alternative requirements for marking are to be the subject of an agreement at the time of enquiry and order.

1.15 Inspection

The purchaser or his representative shall have reasonable access to the works of the manufacturer for the purpose of inspection. If such inspection is to be carried out, this shall be stated when placing the order.

NOTE In continuous mill practice, all orders are subject to a detailed internal system of inspection and testing. Because the period between inspection, or testing, and despatch may be only a few hours, it is desirable that, whenever possible, the external inspection should use the records available.

1.16 Testing facilities

The manufacturer shall supply the material for testing and shall furnish and prepare the necessary test pieces and supply labour and appliances for such testing to be made on his premises in accordance with the requirements of this British Standard. Failing facilities at his own works for making the prescribed tests, the manufacturer shall have the tests made elsewhere.

Section 2. Specific requirements

2.1 Chemical composition

The cast analysis of the steel shall be in accordance with the limits given in Table 4 for the specified steel grade ordered.

2.2 Mechanical properties and delivery condition

2.2.1 For austenitic steels the mechanical properties for the steel grade and specified softened delivery condition, obtained from test pieces selected, prepared and tested in accordance with **1.11.2** and **1.11.3**, shall comply with the limits given in Table 5 for 0.2 % and 1.0 % proof stress, tensile strength, elongation and hardness.

2.2.2 Where the delivery condition ordered differs from the conditions given in Table 5, the limits that are to apply shall be agreed by the manufacturer and purchaser (see also **1.4.1** and **1.8**).

2.3 Intergranular corrosion test

When intergranular corrosion tests are required (see **1.11.4**), the sensitization time, for which specimens are to be treated at 650 °C, shall be in accordance with the final column of Table 5.

Table 4 — Chemical composition limits based on cast analysis

Steel grade	Type description	C		Si	Mn		P	S	Cr		Ni	
		min.	max.	max.	min.	max.	max.	max.	min.	max.	min.	max.
		%	%	%	%	%	%	%	%	%	%	%
309S24	Cr Ni 23/14	—	0.15	1.00	—	2.00	0.045	0.030	22.0	25.0	13.0	16.0
310S24	Cr Ni 24/20	—	0.15	1.00	—	2.00	0.045	0.030	23.0	26.0	19.0	22.0

Table 5 — Mechanical properties, softening temperatures and details of intergranular corrosion test of austenitic stainless steels

Steel grade	Proof stress		Tensile strength	Elongation[a], A, min	Hardness, HV, max.[b]	Condition[c]	Softening temperature range		Sensitization time for intergranular corrosion test (see **2.3**)
	$R_{p0.2,}$ min.	$R_{p1.0,}$ min.	R_m min.				min.	max.	
	N/mm^2	N/mm^2	N/mm^2	%			°C	°C	min.
309S24	205	240	510	40	205	Softened	1 000	1 120	Nil
310S24	205	240	510	40	205	Softened	1 000	1 120	Nil

1 N/mm^2 = MPa

[a] Elongation measured on flat test pieces using 50 mm gauge length or $5.65\sqrt{S_o}$. For cylindrical test pieces, a gauge length of $5.65\sqrt{S_o}$ is used.

[b] For items of adequate thickness the Brinell hardness test may be used, applying the same limiting HB hardness values as given for HV.

[c] See **1.8**

Table 6 — *Table deleted*

Section 3. Tolerances on dimensions and shape

3.1 General

The material shall conform to the tolerances given in **3.2** for non-continuously hot rolled flat products (quarto plate), in **3.3** for hot rolled wide strip and derived products, in **3.4** for hot rolled narrow strip (rolled width less than 600 mm), in **3.5** for cold rolled wide strip and derived products and in **3.6** for cold rolled narrow strip (rolled width less than 600 mm), unless otherwise agreed at the time of enquiry and order.

3.2 Non-continuously hot rolled flat products (quarto plate)

Tolerances shall conform to BS EN 10029. Thickness tolerance class A shall apply, unless specifically agreed otherwise at the time of enquiry and order.

3.3 Hot rolled wide strip in coils, or sheet/plate cut from coils, or coils slit from wide strip

Tolerances shall conform to BS EN 10051.

3.4 Hot rolled narrow strip

Tolerances shall conform to BS EN 10048.

3.5 Cold rolled sheet/plate, cold rolled coil and slit coil (rolled width 600 mm or above)

Tolerances shall conform to BS EN 10259.

3.6 Cold rolled narrow strip (rolled width less than 600 mm), cut lengths and strip slit from narrow strip

Tolerances shall conform to BS EN 10258.

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Publications referred to

BS EN 10002-1, *Tensile testing of metallic materials.*

BS EN 10002-1-1, *Method of test at ambient temperature.*

BS 240, *Method for Brinell hardness test.*

BS 240-1, *Testing of metals.*

BS 427, *Method for Vickers hardness test.*

BS 427-1, *Testing of metals.*

BS 1449, *Steel plate, sheet and strip*[2)].

BS 1449-1, *Specification for carbon steel plate, sheet and strip.*

BS 1501, *Steels for fired and unfired pressure vessels. Plates*[2)].

BS 1501-3, *Corrosion and heat resisting steel.*

BS 5770, *Steel strip intended for the manufacture of springs.*

BS 5770-4, *Specification for martensitic and austenitic stainless steel.*

BS 5903, *Method for determination of resistance to intergranular corrosion of austenitic stainless steels: copper sulphate — sulphuric acid method (Moneypenny Strauss test).*

BS EN 10029, *Hot rolled steel plates 3 mm thick or above — Tolerances on dimensions, shape and mass.*

BS EN 10051, *Continuously hot-rolled uncoated plate, sheet and strip of non-alloy and alloy steels — Tolerances on dimensions and shape.*

BS EN 10088, *Stainless steels.*

BS EN 10088-2, *Technical delivery conditions for sheet/plate and strip for general purposes.*

BS EN 10048, *Hot-rolled narrow steel strip — Tolerances on dimensions and shape.*

BS EN 10258, *Cold-rolled stainless steel and narrow strip and cut lengths — Tolerances on dimensions and shape.*

BS EN 10259, *Cold-rolled stainless steel wide strip and plate/sheet — Tolerances on dimensions and shape.*

[2)] Referred to in the foreword only.

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