



BS 302 : Part 1 : 1987

UDC 677.721

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British Standard

Stranded steel wire ropes

Part 1. Specification for general requirements

Câbles toronnés en acier
Partie 1. Caractéristique générales — Spécifications

Litzenseile aus Stahldrähten
Teil 1. Allgemeine Anforderungen

British Standards Institution

Foreword

This Part of BS 302 has been prepared under the direction of the Mechanical Handling Standards Committee. It is one Part of a combined revision of BS 302 : 1968, BS 236 : 1968, BS 329 : 1968, BS 330 : 1968, BS 365 : 1968 and BS 3530 : 1968, which are withdrawn. BS 302 is now published in six Parts and takes account of both national and international developments since 1968.

This Part (Part 1) specifies general requirements for all steel wire ropes covered by this standard. The other Parts specify additional requirements for particular uses of ropes:

- Part 2 Specification for ropes for general purposes
- Part 3 Specification for zinc coated ropes for ships
- Part 4 Specification for ropes for lifts
- Part 5 Specification for ropes for hauling purposes
- Part 6 Specification for ropes for mine hoisting

Two further Parts are in preparation, covering larger diameter ropes (64 mm to 205 mm diameter) and higher strength ropes and will be Parts 7 and 8 respectively.

In line with the principles of international standard ISO 2408, published by the International Organization for Standardization (ISO), the constructions are grouped according to the number of outer wires in the strands.

The general requirements of BS 302 : Part 1 and the methods used for calculating breaking loads and approximate masses are in accordance with ISO 2408. In respect of individual usages, the ropes in Parts 2 and 3 are fully in accordance with ISO 2408 and those in section two of Part 4 are in accordance with ISO 4344. In each of these parts however, certain additional ropes still in common use in the UK have been included.

In line with current international practice, the term 'zinc coated' has been adopted in this standard in place of 'galvanized'. The terms are synonymous.

Purchasers ordering to BS 302 are advised to specify in their purchasing contract that the manufacturer operate a quality system in compliance with the appropriate Part of BS 5750, or suitable equivalent, to ensure themselves that products claimed to comply with BS 302 consistently achieve the required level of quality.

Wire rope users will find valuable information in the companion publication BS 6570 'Code of practice for the selection, care and maintenance of steel wire ropes'.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

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Specification

1 Scope

This Part of BS 302 specifies the general requirements for the steel wire ropes whose particular requirements are specified in other Parts of this standard.

NOTE 1. Information on the methods of calculating minimum breaking strength and mass of rope is given in appendix C. Information on the designation of rope constructions is given in appendix D.

NOTE 2. The titles of the publications referred to in this standard are listed on the inside back page.

2 Definitions

For the purposes of BS 302 the following definitions apply.

2.1 wire. A single continuous length of steel, cold drawn from rod.

2.2 strand. An assembly of wires spun helically in one or more layers around a core.

2.3 rope. An assembly of strands spun helically, in one or more layers around a core.

2.4 rope group. A grouping of ropes of similar characteristics on the basis of the number of strands in the rope, the number of outer wires in the strand and the shape of the strands.

2.5 bright wire. Non-zinc coated wire, sometimes known as black wire.

2.6 zinc coated wire. Wire which has been zinc coated (galvanized) by one of the permissible processes.

2.7 king wire. A single wire forming the core of a strand.

2.8 core. The central member of a strand or rope.

2.9 core of a round strand. A core which consists of fibre or a single wire (king wire).

2.10 core of a triangular strand. A core which consists of a solid triangular wire, three round wires formed into a triangle, or a built-up core (BUC).

2.11 built-up core (BUC) of a triangular strand. A core which consists of more than three round wires, formed into a triangle, which are spun and not laid parallel.

2.12 main core. The core of the rope around which the strands are spun. A fibre core is designated FC.

2.13 independent wire rope core (IWRC). A main core which is itself a wire rope.

2.14 wire strand core (WSC). A main core which is itself an independent wire strand, normally of the same construction as the outer strands.

2.15 tensile grade (of wire). The minimum value of tensile strength used to designate the tensile strength range of the wire. The unit of measure is N/mm^2 ($1 \text{ N/mm}^2 = 1 \text{ MPa}$).

2.16 minimum breaking force. The force, in kilonewtons, below which the rope shall not break when tested to destruction according to appendix B.

2.17 minimum breaking load. The load, in tonnes, corresponding to the minimum breaking force.

2.18 calculated aggregate breaking load. The value calculated from the product of the sum of the cross-sectional metallic areas of all the individual wires in the rope and the tensile grade(s) of the wire. The total metallic area is directly proportional to the square of the nominal diameter of the rope.

NOTE. This calculated aggregate breaking load is available to assist designers in making a comparison between British Standards and certain other current standards in Europe. It is emphasized that the basis of acceptance of rope in accordance with British Standards is the minimum breaking load.

2.19 filler wires. Small auxiliary wires in a strand for spacing and positioning other wires.

2.20 stranding. Spinning wires together to form a strand.

2.21 round strand rope. A stranded rope in which the strands are made of wires disposed in such a manner that the perpendicular cross section of the strand is approximately circular in shape.

2.22 triangular strand rope (TS). A stranded rope in which the strands are made of wires disposed in such a manner that the perpendicular cross section of the strand is approximately triangular in shape.

2.23 multi-strand rope. A stranded rope in which two or more layers of strand are spun helically around the main core. The layers of strands are so disposed that, when under tension, the rope will have the minimum obtainable torque or rotational tendency. Sometimes known as non-rotating or rotation resistant.

2.24 lay. The designation of the direction in which the wires are spun in the strand and the strands are spun in the rope. It will be either right-hand (RH) or left-hand (LH).

2.25 lay length. That distance in a strand or rope, measured parallel to the longitudinal axis, in which the wire in the strand or the strand in the rope makes one complete turn (or helix) about the axis of the strand or rope.

2.26 ordinary lay construction. A rope construction in which the direction of lay of the wires in the strands is opposite to the direction of lay of the strands in the rope. Otherwise known as regular lay.

2.27 Lang's lay construction. A rope construction in which the direction of lay of the outer layer of wires in the strands is the same as the direction of lay of the strands in the rope.

2.28 equal lay construction. A rope construction in which the wires in the strand are so spun that they all have an equal lay length. It follows that the contact between all wires in the strand is linear.

2.29 cross lay construction. A rope construction in which the wires in successive layers of the strand are spun at approximately the same lay angle. It follows that the wires in successive layers in the strand make point contact.

2.30 preforming. Forming the finished strands into the helical shape they will assume in the finished rope thus lying naturally in their true position without constraint.

2.31 eye. A loop formed and secured at the end of a rope.

2.32 nominal diameter. The value by which the diameter of the wire or rope is designated.

2.33 actual diameter. The measured diameter of the wire or rope.

2.34 kinking. The tightening of a loop resulting in the permanent distortion of the wires and strands.

2.35 tread diameter. The diameter of the sheave measured at the bottom of the groove.

3 Material

3.1 Wire

Wire used for ropes shall comply with sections one and two (general purpose wire) or sections one and three (high duty wire) of BS 2763 : 1982 as specified in the Parts of BS 302 relating to the particular types of stranded steel wire ropes.

3.2 Fibre cores

3.2.1 Fibre cores shall be of natural or man-made fibre. Where a fibre core of 4 mm diameter and over is used it shall comply with BS 525.

3.2.2 Ropes having man-made fibre cores shall not be subjected to any end fitting process which involves temperatures that melt the fibre.

3.3 Lubricant

The lubricant shall be free from acid or significant alkali content and shall have no injurious effect on the steel wires or on the fibre content of the cores.

4 Manufacture

4.1 Strand

4.1.1 The strand shall be uniformly made and be free from slack wires and other defects.

4.1.2 In an equal lay construction all wires of the strand shall be stranded in one operation unless the king wire of a strand is so large as to be considered undesirable; then, at the manufacturer's discretion, it shall be replaced by a multi-wire strand manufactured in a separate stranding operation.

4.1.3 King wires shall be large enough to enable the covering wires to be evenly laid.

4.2 Rope

4.2.1 The rope shall be uniformly made, free from defects, and the strands shall lie tightly on the core or the underlying strands. When uncoiled under no load the rope shall not be wavy.

4.2.2 All strands except those of multi-strand ropes shall be of the same construction and direction of lay.

4.2.3 The core shall be large enough to enable the covering strands to be evenly laid.

4.2.4 In zinc coated ropes, all the wires shall be zinc coated, including those of the steel core.

4.3 Preforming

All ropes except those of multi-strand construction shall be either preformed or unpreformed.

NOTE 1. If a non-preformed rope is required this should be stated on the enquiry and/or order.

NOTE 2. Multi-strand ropes are not preformed.

4.4 Joints

Except for lift ropes (see BS 302 : Part 4), wires exceeding 0.40 mm diameter shall be joined by welding or brazing.

5 Diameter and ovality of rope

5.1 Tolerances on diameter

Except for lift ropes (see BS 302 : Part 4), when measured in accordance with appendix A, the actual diameter shall be equal to the nominal diameter within the tolerance given in table 1.

For ropes with diameters from 2 mm to 5 mm the permitted tolerance shall be rounded up to the nearest 0.05 mm.

Table 1. Rope diameter tolerances

Nominal diameter <i>d</i>	Rope construction	
	All constructions except 6 × 12, 6 × 24 Paragon	6 × 12, 6 × 24 Paragon
mm	% of <i>d</i>	% of <i>d</i>
2 and 3	+7 -1	+8 -1
4 and 5	+6 -1	+8 -1
6 and 7	+5 -1	+7 -1
8 and over	+4 -1	+6 -1

5.2 Tolerances on ovality

Except for lift ropes (see BS 302 : Part 4), the maximum variation between any of the four measurements taken in accordance with appendix A shall not exceed the values given in table 2.

Table 2. Ovality tolerance		
Nominal diameter <i>d</i>	Rope construction	
	All constructions except 6 × 12, 6 × 24 Paragon	6 × 12, 6 × 24 Paragon
mm	% of <i>d</i>	% of <i>d</i>
2 and 3	7	9
4 and 5	6	8
6 and 7	5	7
8 and over	4	6

6 Length of rope

The length of a rope, measured under no load and expressed in metres, shall be the specified length, subject to the following tolerances:

Up to and including 400 m	+5 % -0
Over 400 m	+20 m for each 1000 m or -0 part thereof

NOTE 1. The length of a rope should be specified by the purchaser on the order to the manufacturer.

NOTE 2. Ropes required with smaller tolerance, for example those fitted with a termination at each end, will be the subject of special agreement between purchaser and manufacturer. Measurement is taken from bearing point to bearing point.

7 Inspection and testing

7.1 Facilities for inspection

All tests and inspections shall be made before despatch.

NOTE 1. The rope manufacturer should ensure that such tests and inspections are made.

NOTE 2. When so specified by the purchaser on the enquiry and order, the rope manufacturer should accord the purchaser or his representative all reasonable facilities to carry out tests in order to ensure that the rope is in accordance with this standard.

Where the purchaser is not satisfied with the tests, the manufacturer is at liberty to have the ropes tested in accordance with the provisions of this standard by an independent testing authority agreed upon between the purchaser and the manufacturer. If the results of such tests are satisfactory, the ropes are deemed to comply with this standard.

7.2 Test on rope for actual breaking load

A tensile test to destruction shall be carried out in accordance with appendix B on a test piece from each rope-making (production length).

The actual breaking load shall be not less than the minimum breaking load specified in the Parts of BS 302 relating to the particular types of stranded steel wire ropes and shall be recorded by the manufacturer.

NOTE 1. C.1 gives the method of calculation.

NOTE 2. Tests in which breakage occurs adjacent to the grips may be discarded at the option of the manufacturer.

7.3 Tests on wire from the rope

7.3.1 General. When tests on wires taken from the completed rope are specified by the purchaser in the enquiry and order, see appendix F, the following tests shall be carried out on all ropes in accordance with appendix E:

- (a) diameter measurement;
- (b) tensile tests;
- (c) torsion test;
- (d) when applicable, zinc coating weight test.

NOTE 1. In the case of ropes for mine hoisting (see BS 302 : Part 6) a reverse bend test should be carried out in addition to tests (a) to (d). In the case of ropes for hauling purposes (see BS 302 : Part 5) a reverse bend test may be required in addition to tests (a) to (d).

Not more than one wire in a sample shall fail each of the requirements in 7.3.2 to 7.3.6.

NOTE 2. This requirement may be alternatively stated as shown in the adjunct to table 10.

7.3.2 Wire diameter. The wire diameters shall be within the tolerances given in table 3.

Table 3. Tolerances on nominal diameter of rope wire					
Nominal diameter of wire*		Bright or drawn zinc coated (class A or class Z)		Finally zinc coated (class A)	
From incl.	To excl.	Plus	Minus	Plus	Minus
mm	mm	mm	mm	mm	mm
0.20	0.25	0.01	0.005	—	—
0.25	0.40	0.01	0.01	—	—
0.40	1.00	0.015	0.015	—	—
1.00	1.60	0.02	0.02	0.04	0.02
1.60	2.40	0.025	0.025	0.05	0.03
2.40	3.70	0.03	0.03	0.06	0.03
3.70	5.00	0.04	0.04	0.08	0.04
* High duty wire only available in sizes 0.80 mm to 4.10 mm, bright or drawn zinc coated (class Z), section three of BS 2763 : 1982.					

7.3.3 Tensile strength. The tensile strength shall be not more than 50 N/mm^2 * below the nominal tensile strength, except that a 5 % reduction shall be permitted for wires taken from triangular strand ropes.

7.3.4 Torsions. When tested on a length $100 \times$ diameter of wire, the number of torsions without failure shall be equal to or greater than those given in tables 4 and 5.

Table 4. Minimum number of twists for general purpose wire

Nominal diameter of wire		Bright or grade Z zinc coated wire				Drawn zinc coated wire (class A)			Finally zinc coated (class A)	
From incl.	To excl.	Tensile grade								
		1370 N/mm ²	1420 N/mm ²	1570 N/mm ²	1770 N/mm ²	1420 N/mm ²	1570 N/mm ²	1770 N/mm ²	1420 N/mm ²	1570 N/mm ²
mm	mm									
0.50	1.00	24	23	23	21	21	21	19	—	—
1.00	1.30	23	23	23	20	21	21	18	—	—
1.30	1.80	23	23	23	20	21	21	17	—	—
1.80	2.30	23	22	22	19	20	20	—	14	14
2.30	3.00	22	21	21	17	20	20	—	12	12
3.00	3.50	21	20	20	17	—	—	—	11	11
3.50	3.80	20	20	20	16					
3.80	4.00	19	18	18	15					
4.00	4.20	19	17	17	14					
4.20	4.40	18	17	17	14					
4.40	4.60	18	17	17	13					
4.60	4.80	17	16	16	11					

NOTE. These values represent 75 % of the values in BS 2763.

NOTE. These values represent 75 % of the values in BS 2763.

Table 5. Minimum number of twists for high duty wire: bright or drawn zinc coated class Z

Nominal diameter of wire		Tensile grade	
From incl.	To excl.	1570 N/mm ²	1770 N/mm ²
mm	mm		
0.80	1.00	26	25
1.00	1.30	26	23
1.30	1.80	25	23
1.80	2.30	23	21
2.30	3.00	23	20
3.00	3.50	22	18
3.50	3.80	21	17
3.80	4.10	20	16

NOTE. These values represent 75 % of the values in BS 2763.

*1 N/mm² = 1 MPa.

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7.3.5 Reverse bends (applicable to rope in BS 302 : Part 5 and 6 only). The number of reverse bends shall be equal to or greater than those given in table 6.

Table 6. Reverse bends			
Nominal diameter of wire	Bend radius	Minimum number of reverse bends for stated tensile grade	
		Bright wire or drawn zinc coated class Z wire general purpose and high duty wire	
		1570 N/mm ²	1770 N/mm ²
mm	mm		
0.90	2.5	9	8
0.95		8	8
1.00		8	7
1.10	3.75	13	12
1.20		12	11
1.30		11	10
1.40		9	8
1.50		8	7
1.60		11	10
1.70	5.0	10	9
1.80		9	8
1.90		8	7
2.00		7	6
2.10		12	11
2.20	7.5	11	11
2.30		11	10
2.40		10	9
2.50		9	8
2.60		8	8
2.70		8	7
2.80		7	6
2.90		7	5
3.00		6	5
3.10		10	9
3.20	10.0	9	8
3.30		8	8
3.40		8	7
3.50		7	6
3.60		7	6
3.70		6	5
3.80		6	5
3.90		5	5
4.00		5	5

NOTE. For intermediate nominal diameters or tensile strength grades, the bend radius and minimum number of bends shall be those given for the next larger nominal diameter or tensile grade. These values represent approximately 75 % of the values in BS 2763.

7.3.6 Zinc coating. The weight of zinc coating shall be not less than that given in table 7.

Table 7. Minimum weight of zinc: general purpose and high duty wire			
Nominal diameter of zinc coated wire		Minimum weight	
From incl.	To excl.	Class Z	Class A
mm	mm	g/m ²	g/m ²
0.20	0.25	18	27
0.25	0.33	27	40
0.33	0.40	27	54
0.40	0.50	36	67
0.50	0.60	45	81
0.60	0.80	54	99
0.80	1.00	63	117
1.00	1.20	72	135
1.20	1.50	81	148
1.50	1.90	90	162
1.90	2.50	99	184
2.50	3.20	112	207
3.20	3.70	121	225
3.70	4.25	121	234
4.25	5.00	135	247

NOTE. These values represent 90 % of the values in BS 2763.

7.3.7 Failure to comply on first testing. If more than one wire fails any one test, all the wires of that nominal diameter shall be tested. These retests shall be restricted to the particular test in which failure occurred.

The number of wires which fail on retest shall be not greater than 4 % of the total number of wires of equal nominal diameter in the rope.

8 Certificates

8.1 Ropes for use within the jurisdiction of the Health and Safety at Work etc. Act 1974

A certificate of compliance* shall be supplied with each consignment of rope, and it shall include a statement that it complies with this standard.

8.2 Ropes for use outside the jurisdiction of the Health and Safety at Work etc. Act 1974

If a certificate of test is supplied it shall give at least the following information and shall be supplied with each consignment of rope.

* 'Form 87: Certification of tests and examination of wire rope.'

(a) The number of this British Standard, i.e. BS 302* and the relevant Part number and year.

(b) Length of rope.

(c) Size of rope.

(d) Details of construction.

(e) Minimum breaking load of rope.

NOTE. The purchaser should state on the enquiry and order whether a certificate of test is required (see appendix F).

9 Identification

The test certificate number, the rope size and construction, the number of this British Standard and the relevant Part

number and year shall be legibly and durably marked upon a tag securely attached to each coil or reel.

10 Packing

Ropes in accordance with BS 302 : Parts 5 and 6 and multi-strand ropes shall be supplied on reels; other ropes shall be supplied in coils or on reels. The ropes shall be protected in transit against damage by moisture, dust or dirt.

NOTE. If the purchaser requires a particular packing, this should be stated on the enquiry and order (see appendix F).

*Marking BS 302 on or in relation to a product is a claim by the manufacturer that the product has been manufactured in accordance with the requirements of the standard. The accuracy of such a claim is therefore solely the manufacturer's responsibility. Enquiries as to the availability of third party certification should be addressed to the appropriate certification body.

Appendices

Appendix A. Method of measuring diameter

A.1 Apparatus

A.1.1 *Caliper*, fitted with jaws broad enough to cover not less than two adjacent strands (see figure 1).

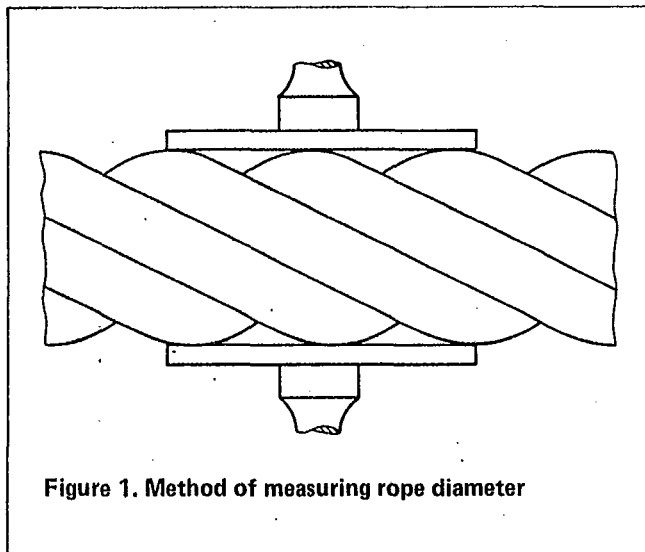


Figure 1. Method of measuring rope diameter

A.2 Procedure

Take measurements on a straight portion of rope under no tension, at two points spaced at least 1 m apart. At each point measure two diameters at right-angles.

Take the average of these measurements as the actual diameter.

NOTE. In case of dispute the diameter may be measured under a force of 5 % of the minimum breaking load of the rope.

Appendix B. Method of measuring actual breaking load

B.1 Apparatus

B.1.1 *Tensile testing machine*, having an accuracy complying with grade 1.0 of BS 1610.

B.2 Test piece

Take a test piece that is representative of the rope and of a length such that the minimum test length (distance between the grips) is in accordance with table 8.

B.3 Procedure

Apply no more than four-fifths of the minimum breaking force quickly and thereafter apply further force slowly and steadily until the actual breaking load is attained. Record the value.

Table 8. Test length

Nominal diameter d	Minimum test length
mm	mm
Under 6	300
6 to 20	600
Over 20	$30d$

Appendix C. Determination of minimum breaking force and mass of rope

C.1 Determination of minimum breaking force

The minimum breaking force, F_0 , in kN, is calculated using the following equation:

$$F_0 = \frac{K'd^2 R_0}{1000}$$

where

d is the nominal diameter of the rope (in mm);

R_0 is the tensile grade of wire (in N/mm²);

K' is the empirical factor for the minimum breaking force for a given rope construction.

The values of K' are given in table 9.

K'_1 is the factor for fibre cored ropes; and

K'_2 is the factor for steel cored ropes.

The minimum breaking load (MBL), in t, in the tables is calculated using the following equation:

$$MBL = F_0 \times 0.102$$

where

F_0 is the minimum breaking force (in kN).

C.2 Determination of mass

The approximate rope mass per unit length of the rope, M , in kg/100 m, is calculated using the following formula:

$$M = Kd^2$$

where

d is the nominal diameter of the rope (in mm);

K is the empirical factor for the mass per unit length for a given rope construction.

Values for K are given in table 9. These values are for fully lubricated ropes; ropes which are not fully lubricated may be lighter.

K_{1n} is the factor for natural fibre cored ropes;

K_{1p} is the factor for polypropylene fibre cored ropes; and

K_2 is the factor for steel cored ropes.

Appendix D. Designation of the construction

A convention has been adopted nationally for describing various rope constructions, e.g. 6 x 36 (14/7 and 7/7/1)FC. This example describes a rope having six strands and a fibre core, each strand comprising 36 wires with the outer layer having 14 wires, the second layer seven large and seven smaller wires, the inner layer seven wires round one king wire.

The constructions are also known by name, e.g. Warrington-Seale. For a fuller explanation of the names see BS 6570.

Appendix E. Method of testing wires taken from the completed rope

E.1 Test pieces

Cut a suitable length from the rope and unlay it into its component wires. Segregate the wires of each nominal diameter excluding filler wires, king wires, wire of a triangular strand core and wire of a steel core.

Take a random sample of test wires of each of the nominal diameters to be tested, the number of wires in a sample being in accordance with table 10.

Straighten each test piece in a manner that minimizes surface damage and strain.

E.2 Test and retest procedure

Carry out the tests in accordance with BS 2763.

Table 9. Values for factors K and K'

Table 9. Values for factors K and K'								
Rope group	Rope mass factor			$\frac{K_2}{K_{1n}}$	$\frac{K_2}{K_{1p}}$	Minimum breaking force factor		$\frac{K'_2}{K'_1}$
	Natural fibre core K_{1n}	Man-made fibre core K_{1p}	Steel core K_2			Fibre core K'_1	Steel core K'_2	
	kg/100 m per mm ²							
* 6 × 7	0.346	0.340	0.381	1.10	1.12	0.332	0.359	1.08
* 6 × 19 * 6 × 36 Equal lay	0.361	0.352	0.398	1.10	1.13	0.330	0.356	1.08
6 × 19 † 6 × 37 Cross lay	0.346 0.346	0.337 0.337	0.381 —	1.10 —	1.13 —	0.307 0.295	0.332 —	1.08 —
† 6 × 12	0.251	0.231	—	—	—	0.209	—	—
* 6 × 24	0.308	0.295	—	—	—	0.280	—	—
‡ 12 × 6/3 × 24	0.362	—	—	—	—	0.300	—	—
* 17 × 7 * 18 × 7		0.390		—	—	0.328		
* 34 × 7 * 36 × 7		0.390				0.318		
* 8 × 19 * 8 × 26	0.347	0.339	—	—	—	0.293	—	—
‡ 6 × 8TS ‡ 6 × 22TS ‡ 6 × 25TS }	0.410 0.410	0.400 0.400	0.447 0.447	1.09 1.09	1.12 1.12	0.362 0.351	0.384 0.372	1.06 1.06

* In accordance with ISO 2408 : 1985.

† In accordance with ISO 2408 : 1973.

‡ Not included in ISO standards.

Table 10. Number of wires in a sample		Adjunct to table 10*. Failure criteria	
Number of wires of given nominal diameter in rope	Number of test wires in a sample of one nominal wire diameter	Number of rejections	
		Conformity	Non-conformity
Up to 50 wires	8	1	2
51 to 90 wires	13	1	2
91 to 150 wires	20	1	2
		*See note 2 to 7.3.1.	

Appendix F. Information to be supplied by the purchaser on enquiry and order

If the purchaser is uncertain about any of the particulars called for below, reference should be made to the rope manufacturer, giving details of the use to which the rope will be put.

The particulars required are as follows:

- (a) number of this British Standard, (i.e. BS 302) and the relevant Part number and year;
- (b) purpose for which the rope is to be used;
- (c) length;
- (d) diameter;
- (e) construction (group);

(f) core type;

(g) wire tensile and wire finish (bright or zinc coated) as appropriate;

(h) ordinary or Lang's lay, and lay direction where appropriate;

(i) testing to be undertaken;

(j) the type of certificate required (see clause 8);

(k) any specific requirements, e.g. detrimental environmental conditions, length tolerances required if tighter than those provided in clause 6.

Publications referred to

BS 525	Fibre cores for wire ropes
BS 1610	Materials testing machines and force verification equipment
	Part 1 Specification for the grading of the forces applied by materials testing machines
BS 2763	Specification for round carbon steel wire for wire ropes
BS 5750*	Quality systems
	Part 2 Specification for manufacture and installation
BS 6570*	Code of practice for the selection, care and maintenance of steel wire ropes
ISO 2408*	Steel wire ropes for general purposes — Characteristics
ISO 4344*	Steel wire ropes for lifts

*Referred to in the foreword only.

BS 302 : Part 1 : 1987

This British Standard, having been prepared under the direction of the Mechanical Handling Standards Committee, was published under the authority of the Board of BSI and comes into effect on 30 June 1987.

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First published, as BS 302, September 1927

First revision, as BS 302 and 621, December 1957

Second revision, as BS 302, May 1968

Third revision, as BS 302 : Part 1, June 1987.

ISBN 0 580 15632 X

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The following BSI references relate to the work on this standard:
Committee reference MHE/2 Draft for comment 85/70785 DC

Committees responsible for this British Standard

This British Standard was entrusted by the Mechanical Handling Standards Committee (MHE/-) to Technical Committee MHE/2, upon which the following bodies were represented:

Associated Offices Technical Committee

Association of Supervisory and Executive Engineers

British Coal

British Ports Association and the National Association of Ports Employers

British Railways Board

British Steel Industry (Wire Section)

Bureau Veritas

Chain Testers Association of Great Britain

Department of the Environment (Property Services Agency)

Federation of Manufacturers of Construction Equipment and Cranes

Federation of Wire Rope Manufacturers of Great Britain

Health and Safety Executive

Institution of Mechanical Engineers

Institution of Mining Engineers

Institution of Mining and Metallurgy

Ministry of Defence

National Association of Lift Makers

Zinc Development Association

Amendments issued since publication

Amd. No.	Date of issue	Text affected

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