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Steel wire ropes — Fibre main cores — Specification

Câbles en acier — Âmes centrales en textile — Spécifications

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 4345 was prepared by Technical Committee ISO/TC 105, *Steel wire ropes.*

This second edition cancels and replaces the first edition (ISO 4345 : 1977), of which it constitutes a technical revision.

Annexes A, B, C, D and E form an integral part of this International Standard.

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Steel wire ropes — Fibre main cores — Specifications

1 Scope

This International Standard specifies the construction and characteristics of fibre main cores for steel wire ropes using two types of fibre :

a) natural;

b) man-made.

This International Standard is not applicable to ropes for mine hoisting purposes.

NOTE — Fibre cores may be adversely affected by high ambient temperatures; when selecting fibre cores, the limitation of specific fibres in this respect should be recognized.

2 Natural fibre cores

Natural fibre cores shall be made from new hard fibres of the following types :

— sisal (*Agave sisalana*);

— abaca; Manila hemp (*Musa textilis*).

3 Man-made fibre cores

Man-made fibre cores shall be made entirely from new fibres of the following types :

— fibre-forming polyolefines (i.e. monofilament, film or fibrillated film of polyethylene, polypropylene, etc.);

— any suitable alternative materials agreed between core purchaser and core supplier.

4 Construction

Main cores complying with this International Standard shall be laid up from at least three strands. Each coil shall be continuous throughout its length without core splices.

5 Core designation

The core shall be designated by its nominal diameter and nominal runnage (mass per unit length); these shall be agreed between the core manufacturer and the wire rope manufacturer. The core manufacturer shall state whether the runnage is based on the lubricated or unlubricated core.

6 Tolerances

The tolerances on the ordered length, l, shall be as follows :

$l \leqslant 400$ m : $^{+5}_{0}$ %

$l > 400$ m : $^{+20}_{0}$ m for each 1 000 m or part thereof

The tolerances on nominal diameter and nominal runnage, expressed as percentages, shall be as given in table 1.

Table 1

Tolerances expressed as a percentage

Type of fibre	Tolerances on	
	nominal diameter, D	nominal runnage
Natural fibre	all sizes : $^{+5}_{0}$	$^{+5}_{0}$
Man-made fibre	4 mm $\leqslant D <$ 7 mm : $^{+4}_{0}$	$^{+4}_{0}$
	$D \geqslant$ 7 mm : $^{+3}_{0}$	$^{+3}_{0}$

7 Core lubricants

Lubricants used for cores shall be acid-free and shall not contain moisture.

The lubricant content of pre-lubricated cores shall be agreed between the core purchaser and the core manufacturer; it shall be measured in accordance with the method specified in annex C.

8 Water soluble acids[1)]

The acidity of the core shall be not more than 2 ml of a 0,1 mol/l acid solution per 100 g of core when tested in accordance with the method specified in annex D.

1) Acidity and salt are normally associated only with natural fibre cores and may not be applicable to man-made fibre cores.