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**INTERNATIONAL STANDARD**



**4346**

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## **Steel wire ropes for general purposes — Lubricants — Basic requirements**

*Câbles en acier d'usage courant — Lubrifiants — Exigences de base*

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**Descriptors** : wire rope, steel wire rope, lubricants, specifications, quality control.

## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

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.

International Standard ISO 4346 was developed by Technical Committee ISO/TC 105, *Steel wire ropes*, and was circulated to the member bodies in August 1975.

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It has been approved by the member bodies of the following countries :

Australia	Italy	Switzerland
Austria	Japan	Turkey
Bulgaria	Netherlands	United Kingdom
Czechoslovakia	New Zealand	U.S.A.
Finland	Poland	U.S.S.R.
France	Romania	Yugoslavia
Germany	South Africa, Rep. of	
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The member body of the following country expressed disapproval of the document on technical grounds :

Belgium

# Steel wire ropes for general purposes — Lubricants — Basic requirements

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the nature and properties of lubricants used in the manufacture of wire ropes for general purposes. Service dressings and fibre core lubricants are excluded.

## 2 REQUIREMENTS

### 2.1 General requirements

The lubricants or impregnating compounds shall comprise a homogeneous, non-volatile base material, which shall protect the wires of the rope against corrosion, and shall reduce friction and fretting between the wires. In particular, the lubricating or impregnating compounds shall

- a) have good covering properties;
- b) be water repellent, water resistant, and contain no compounds significantly emulsifiable in water;
- c) not be subject to significant embrittlement;
- d) not contain grit, abrasive matter, deliberate weighting matter, water, chlorides, or similar impurities;
- e) not contain any additive or compound which, in combination with moisture in any of its forms, can form products inherently corrosive to steel or zinc, or detrimental to the fibre components of the rope;
- f) not contain any additive or compound which, owing to degradation either by heat or by exposure to natural sunlight, can form products inherently corrosive to steel or zinc, or detrimental to the fibre components of the rope.

### 2.2 Special requirements

**2.2.1** The non-volatile base material may be dissolved in a solvent, but if solvents are used they shall not contain benzene or chlorinated hydrocarbons. The state of the base compound before dissolving and after evaporation of solvent shall be substantially the same.

**2.2.2** If reduction of the viscosity by heating is necessary for application purposes, the lubricant shall be such as to return substantially to its initial state after heating, i.e. it shall be heat reversible. Care must be taken not to degrade such lubricants by heating at too high a temperature, or for too long a time.

## 3 QUALIFICATION TESTS

The rope lubricants and impregnating compounds supplied in accordance with this International Standard shall be products which have been subjected to and have passed those qualification tests agreed between the lubricant supplier and the wire rope manufacturer.

Any change in the formulation of a qualified product will require its requalification.

A qualification certificate shall be issued for each product.

## 4 QUALITY CONTROL

The material supplied for use shall be identical, within manufacturing tolerances, with the product receiving qualification. The characteristics determined, the manufacturing tolerances allowable, and the test methods, shall be agreed between the lubricant supplier and the wire rope manufacturer.

Where qualification tests are agreed, the lubricant supplier shall forward a certificate stating that the product complies with the agreed requirements.

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