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ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION
R 346

SHIPBUILDING DETAILS

GALVANIZED STEEL WIRE ROPES

1st EDITION

October 1963

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BRIEF HISTORY

The ISO Recommendation R 346, *Shipbuilding Details — Galvanized Steel Wire Ropes*, was drawn up by Technical Committee ISO/TC 8, *Shipbuilding Details*, the Secretariat of which is held by the Stichting Nederlands Normalisatie-instituut (NNI).

Work on this question by the Technical Committee began in 1952, taking into account the studies which had been made by the former International Federation of the National Standardizing Associations (ISA), and led in 1960 to the adoption of a Draft ISO Recommendation.

In October 1961, this Draft ISO Recommendation (N° 465) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Australia	India	Spain
Belgium	Italy	Switzerland
Czechoslovakia	Japan	Turkey
Finland	Netherlands	United Kingdom
France	New Zealand	U.S.S.R.
Germany	Portugal	Yugoslavia
Greece	Romania	

One Member Body opposed the approval of the Draft: U.S.A.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in October 1963, to accept it as an ISO RECOMMENDATION.

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ISO Recommendation R 346 October 1963

SHIPBUILDING DETAILS

GALVANIZED STEEL WIRE ROPES

1. SCOPE

This ISO Recommendation covers ropes for standing and running rigging, hawsers, mooring and towing purposes and also cargo gear ropes. The provisions apply to round-strand galvanized steel wire ropes of ordinary or regular lay, the lay being right-hand unless otherwise specified.

2. DEFINITIONS

2.1 *Actual breaking load of the wire rope.* Maximum load obtained in tension in an approved testing machine at the moment of complete or partial fracture of a random sample cut from the rope.*

2.2 *Theoretical aggregate breaking load* of wires in a rope. Sum of the breaking loads of all the wires in a rope, based on the value as obtained from the coefficient k_2 and using a tensile strength equal to the minimum of the tensile range specified plus 5 kgf/mm² (3.2 tonf/in²) (49 N/mm²).

2.3 *Coefficient* k_1. Factor by which the nominal diameter of the rope should be divided to obtain the theoretical diameter of the wires for the external layer.

2.4 *Coefficient* k_2. Factor which takes into account the loss of strength in the process of manufacture and by which the theoretical aggregate breaking load is multiplied in order to obtain the calculated minimum breaking load, given in the tables.

As *a basis for this calculation*, a mean tensile strength of wire has been assumed, equal to the minimum value for the grade of wire plus 5 kgf/mm² (3.2 tonf/in²) (49 N/mm²).

Note. — It is essential that a test of the actual breaking load, as described above, be carried out in order to confirm compliance with the calculated minimum breaking load. The actual breaking load obtained from this test should be shown on the test certificate.

The values taken are as follows:

Grade 140 to 159 kgf/mm² (89 to 101 tonf/in²) (1375 to 1560 N/mm²):
145 kgf/mm² (92 tonf/in²) (1420 N/mm²).

Grade 160 to 179 kgf/mm² (101.5 to 114 tonf/in²) (1570 to 1755 N/mm²):
165 kgf/mm² (105 tonf/in²) (1620 N/mm²).

* See clause 187 of *International Labour Office (ILO) Code of Practice*, "Safety and health in dock work", Geneva, 1958.

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