# INTERNATIONAL STANDARD

**ISO 1346**

Second edition
1990-11-01

# Ropes — Polypropylene — Specification

*Cordages — Polypropylène — Spécifications*



Reference number
ISO 1346:1990(E)

## 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 voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.



International Standard ISO 1346 was prepared by Technical Committee ISO/TC 38, *Textiles*.

This second edition cancels and replaces the first edition (ISO 1346:1975), of which it constitutes a technical revision.





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Printed in Switzerland

# Ropes — Polypropylene — Specification

## 1 Scope

This International Standard specifies the main characteristics of 3- and 4-strand laid ropes and 8-strand plaited ropes made of polypropylene and gives rules for their designation.

## 2 Normative references



The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.



ISO 1968:1973, *Ropes and cordage — Vocabulary.*

ISO 2307:1990, *Ropes — Determination of certain physical and mechanical properties.*

ISO 9554:1990[1], *Fibre ropes — General specification.*

## 3 Definitions

For the purposes of this International Standard, the definitions given in ISO 1968 apply.

## 4 Designation

A rope shall be designated by

— the word "rope";

— the reference number of this International Standard;

— the type of rope (type A, B or E);

— its reference number;

— its nature.

**Example of designation:**

An 8-strand plaited polypropylene multifilament rope of reference number 60 (linear density 1 630 ktex) is designated as follows:

Rope, ISO 1346, type E, 60, polypropylene

## 5 Types

Polypropylene ropes are classified in three types:

Type A: 3-strand hawser-laid rope;

Type B: 4-strand shroud-laid rope;

Type E: 8-strand plaited rope.

## 6 Characteristics

### 6.1 Main characteristics

The main characteristics shall be as given in table 1 and table 2 (see also ISO 9554, clause 7).

### 6.2 Other characteristics

Other characteristics, concerning construction, manufacture, lay, labelling, packaging, invoicing and delivery lengths, shall comply with ISO 9554.

1) To be published.

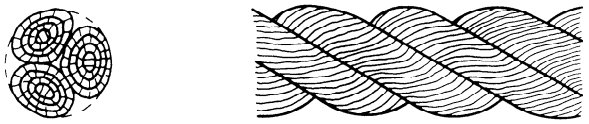

Figure 1 — Shape of a 3-strand hawser-laid rope (type A)

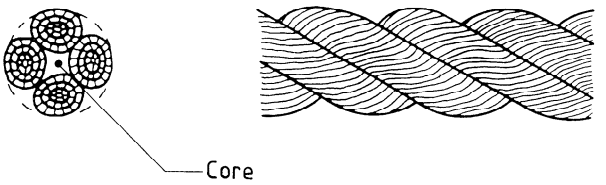


Figure 2 — Shape of a 4-strand shroud-laid rope (type B)

Table 1 — Main characteristics of 3-strand hawser-laid and 4-strand shroud-laid polypropylene ropes

| Ropes Type A | Ropes Type B | Reference number[1] | Linear density[2) 3)] nominal ktex | Linear density[2) 3)] tolerance | Minimum breaking force daN |
|---|---|---|---|---|---|
| 3-Strand | | 4 | 6 | ± 10 % | 210 |
| | 4-Strand | 6 | 17 | | 590 |
| | | 8 | 30 | | 1 040 |
| | | 10 | 45 | ± 8 % | 1 530 |
| | | 12 | 65 | | 2 170 |
| | | 14 | 90 | | 2 990 |
| | | 16 | 115 | ± 5 % | 3 700 |
| | | 18 | 148 | | 4 720 |
| | | 20 | 180 | | 5 690 |
| | | 22 | 220 | | 6 820 |
| | | 24 | 260 | | 7 970 |
| | | 26 | 305 | | 9 220 |
| | | 28 | 355 | | 10 490 |
| | | 30 | 405 | | 11 980 |
| | | 32 | 460 | | 13 230 |
| | | 36 | 585 | | 16 590 |
| | | 40 | 720 | | 20 100 |
| | | 44 | 880 | | 24 150 |
| | | 48 | 1 040 | | 28 040 |
| | | 52 | 1 220 | | 32 450 |
| | | 56 | 1 420 | | 37 100 |
| | | 60 | 1 630 | | 42 420 |
| | | 64 | 1 850 | | 48 000 |
| | | 72 | 2 340 | | 60 270 |
| | | 80 | 2 900 | | 74 130 |
| | | 88 | 3 510 | | 88 950 |
| | | 96 | 4 170 | | 105 000 |

1) The reference number corresponds to the approximate diameter in millimetres.

2) The linear density (in kilotex) corresponds to the net mass per metre (in grams per metre) or to the mass of rope (in kilograms) per thousand metres.

3) The linear density (net mass per metre) is measured under tensile loading for measurement "$F_c$" as given in ISO 2307.

Figure 3 — Shape of an 8-strand square-plaited rope (type E)

Table 2 — Main characteristics of 8-strand plaited polypropylene ropes

| Reference number[1] | Linear density[2) 3)] nominal ktex | tolerance | Minimum breaking force daN |
|---|---|---|---|
| 8 | 30 | ± 10 % | 1 040 |
| 12 | 65 | ± 8 % | 2 170 |
| 16 | 115 | | 3 700 |
| 20 | 180 | | 5 690 |
| 24 | 260 | | 7 972 |
| 28 | 355 | | 10 490 |
| 32 | 460 | | 13 230 |
| 36 | 585 | | 16 590 |
| 40 | 720 | | 20 100 |
| 44 | 880 | | 24 150 |
| 48 | 1 040 | | 28 040 |
| 52 | 1 220 | | 32 450 |
| 56 | 1 420 | | 37 100 |
| 60 | 1 630 | ± 5 % | 42 420 |
| 64 | 1 850 | | 48 000 |
| 72 | 2 340 | | 60 270 |
| 80 | 2 900 | | 74 130 |
| 88 | 3 510 | | 88 950 |
| 96 | 4 170 | | 105 000 |
| 104 | 4 900 | | 120 440 |
| 112 | 5 700 | | 139 000 |
| 120 | 6 500 | | 159 600 |
| 128 | 7 400 | | 180 180 |
| 136 | 8 400 | | 202 860 |
| 144 | 9 400 | | 226 380 |
| 160 | 11 521 | | 277 400 |

1) The reference number corresponds to the approximate diameter in millimetres.

2) The linear density (in kilotex) corresponds to the net mass per metre (in grams per metre) or to the mass of rope (in kilograms) per thousand metres.

3) The linear density (net mass per metre) is measured under tensile loading for measurement "$F_c$" as given in ISO 2307.

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**UDC 677.072.68:677.494.742.3**

**Descriptors**: textiles, textile products, cordages, polypropylene, ropes, specifications, designation, marking.

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