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**Fibre ropes for offshore  
stationkeeping —**

**Part 3:  
High modulus polyethylene (HMPE)**

*Cordages en fibres pour le maintien en position des structures  
marines —*

*Partie 3: Polyéthylène à haut module*

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 38, *Textiles*.

This first edition of ISO 18692-3 cancels and replaces ISO/TS 14909:2012, which has been technically revised. The main changes compared to the previous edition are as follows:

- the document previously published as a Technical Specification has been reorganized as the new ISO 18692-3, taking into account the content of ISO 18692-1:2018.

A list of all parts in the ISO 18692 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

# Fibre ropes for offshore stationkeeping —

## Part 3: High modulus polyethylene (HMPE)

### 1 Scope

This document specifies the main characteristics and test methods of new high modulus polyethylene (HMPE) fibre ropes used for offshore stationkeeping.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1968, *Fibre ropes and cordage — Vocabulary*

ISO 18692-1:2018, *Fibre ropes for offshore stationkeeping — Part 1: General specification*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1968 and ISO 18692-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

### 4 Materials

The fibre used in the core of the rope shall be high-tenacity HMPE, with an average tenacity of not less than 2,5 N/tex, and qualified and tested in accordance with [Annex A](#).

Rope cover material and other materials employed in rope assembly shall be in accordance with ISO 18692-1.

### 5 Requirements — Rope properties

#### 5.1 Minimum breaking strength

The minimum breaking strength of the rope, when tested according to ISO 18692-1, shall conform to [Table 1](#).

**Table 1 — Minimum breaking strength (MBS)**

Reference number <sup>a</sup>	Minimum breaking strength kN
63	2 500
71	3 200
80	4 000
90	5 000
100	6 300
106	7 100
112	8 000
118	9 000
125	10 000
132	11 200
140	12 500
150	14 000
160	16 000
170	18 000
180	20 000

<sup>a</sup> The reference number corresponds to the approximate outer diameter of the rope, in millimetres (mm). Actual diameters can vary for a given reference number.

## 5.2 Minimum core tenacity

The minimum tenacity of the rope core shall be 1,3 N/tex, measured according to ISO 18692-1.

All samples tested shall comply with this minimum value.

## 5.3 Creep properties

The rope creep properties shall be at least as declared by the manufacturer, when tested following the method in [Annex B](#).

## 5.4 Torque properties

Torque-neutral rope or torque-matched rope shall be defined according to ISO 18692-1.

## 5.5 Cyclic loading performance

The rope shall have demonstrated performance under cycling loading following the requirements of ISO 18692-1.

## 5.6 Particle ingress protection

Unless otherwise specified, the rope shall be constructed with a protection of the core against the ingress of particles in accordance with ISO 18692-1.

## 6 Requirements — Rope layout and construction

Rope layout and construction shall be in accordance with ISO 18692-1.