

---

---

**Rubber hoses and hose assemblies,  
wire or textile reinforced, for dredging  
applications — Specification**

*Tuyaux et flexibles en caoutchouc, à armature textile ou métallique,  
pour des applications de dragage — Spécifications*





**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

Published in Switzerland

# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Classification</b> .....	<b>2</b>
4.1 Classes.....	2
4.2 Grades.....	2
<b>5 Materials and construction</b> .....	<b>3</b>
5.1 Hoses.....	3
5.2 Flotation material.....	3
5.3 End fittings and end connections.....	4
<b>6 Dimension and tolerances</b> .....	<b>4</b>
6.1 Diameters.....	4
6.2 Hose assembly length.....	5
<b>7 Physical properties</b> .....	<b>5</b>
7.1 Rubber compounds.....	5
7.1.1 Abrasion resistance of lining.....	5
7.1.2 Tear strength of lining.....	5
7.1.3 Rebound resilience of lining.....	5
7.1.4 Ozone resistance of cover.....	5
7.2 Performance requirements.....	6
7.2.1 Hydrostatic requirements.....	6
7.2.2 Change in length.....	6
7.2.3 Bending test.....	7
7.2.4 Leakage of hose assemblies (proof pressure test).....	7
7.2.5 Minimum reserve buoyancy.....	7
7.2.6 Flotation material recovery.....	8
7.2.7 Adhesion between components.....	8
7.2.8 Adhesion between end fitting and lining.....	8
7.2.9 Minimum tensile strength of empty hose assemblies.....	9
7.2.10 Vacuum resistance.....	9
7.2.11 Dimensions of flange and other connections.....	9
7.2.12 Visual examination.....	9
7.3 Frequency of testing.....	9
<b>8 Test certificate or report</b> .....	<b>10</b>
<b>9 Marking</b> .....	<b>10</b>
<b>10 Recommendations for packaging and storage</b> .....	<b>10</b>
<b>Annex A (normative) Type tests and routine tests</b> .....	<b>11</b>
<b>Annex B (normative) Measurement of adhesion between end fitting and lining</b> .....	<b>12</b>
<b>Annex C (normative) Hose assembly tensile-strength test</b> .....	<b>15</b>
<b>Bibliography</b> .....	<b>18</b>

## 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 on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Rubber and plastics hoses and hose assemblies*.

This third edition cancels and replaces the second edition (ISO 28017:2011), of which it constitutes a minor revision. The changes compared to previous edition are as follows: the Amendment ISO 28017:2011/Amd 1:2015 has been incorporated and the normative references have been updated.

# Rubber hoses and hose assemblies, wire or textile reinforced, for dredging applications — Specification

## 1 Scope

This document specifies requirements for two types, seven classes and three grades of wire- or textile-reinforced dredging hoses with nominal sizes ranging from 100 to 1 200. Within each class, all grades and sizes have the same maximum working pressure. Such hoses are suitable for the delivery or suction of seawater or freshwater mixed with silt, sand, coral and small stones with a specific gravity in the range from 1,0 to 2,3 at ambient temperatures ranging from -10 °C to +40 °C.

This document covers two types of hose, as follows:

- type 1: floating type, for delivery only, which includes flotation material to give the hose buoyancy;
- type 2: submarine type for delivery and suction.

This document does not specify requirements concerning the service life of hoses or hose assemblies. Specifying such requirements is the responsibility of the customer, in consultation with the hose manufacturer.

## 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 34-2:2015, *Rubber, vulcanized or thermoplastic — Determination of tear strength — Part 2: Small (Delft) test pieces*

ISO 1402, *Rubber and plastics hoses and hose assemblies — Hydrostatic testing*

ISO 1431-1, *Rubber, vulcanized or thermoplastic — Resistance to ozone cracking — Part 1: Static and dynamic strain testing*

ISO 4649:2010, *Rubber, vulcanized or thermoplastic — Determination of abrasion resistance using a rotating cylindrical drum device*

ISO 4662:2017, *Rubber, vulcanized or thermoplastic — Determination of rebound resilience*

ISO 4671, *Rubber and plastics hoses and hose assemblies — Methods of measurement of the dimensions of hoses and the lengths of hose assemblies*

ISO 7233:2016, *Rubber and plastics hoses and hose assemblies — Determination of resistance to vacuum*

ISO 8033, *Rubber and plastics hoses — Determination of adhesion between components*

ISO 8330, *Rubber and plastics hoses and hose assemblies — Vocabulary*

ISO 10619-1, *Rubber and plastics hoses and tubing — Measurement of flexibility and stiffness — Part 1: Bending tests at ambient temperature*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8330 apply.