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Rubber hoses and hose assemblies — Wire- or textile-reinforced single-pressure types for hydraulic applications — Specification

Tuyaux et flexibles en caoutchouc — Types hydrauliques à pression unique, avec armature de fils métalliques ou textiles tressés — Spécifications

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Foreword

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This document was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Rubber and plastics hoses and hose assemblies*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 218, *Rubber and plastics hoses and hose assemblies,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fifth edition cancels and replaces the fourth edition (ISO 18752:2022), which has been technically revised.

The main changes are as follows:

— addition of Subclause 7.1.2 in order to align the document with the fluid immersion requirements of ISO 1817;

— revision of Clause 8;

— deletion of Annex B.

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.

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Rubber hoses and hose assemblies — Wire- or textile-reinforced single-pressure types for hydraulic applications — Specification

1 Scope

This document specifies requirements for ten classes, four grades and seven types of wire- or textile-reinforced hydraulic hoses and hose assemblies, of nominal sizes ranging from 5 to 102. Each class has a single maximum working pressure for all sizes.

They are suitable for use with:

— oil-based hydraulic fluids HH, HL, HM, HR and HV, as defined in ISO 6743-4, at temperatures ranging from −40 °C to +100 °C for types AS, AC, BS and BC hoses and from −40 °C to +120 °C for types CS, CC and DC hoses;

— water-based fluids HFC, HFAE, HFAS and HFB, as defined in ISO 6743-4, at temperatures ranging from −40 °C to +70 °C;

— water at temperatures ranging from 0 °C to +70 °C.

This document does not specify requirements for the connection ends. It is limited to the performance of hoses and hose assemblies. The hose assembly maximum working pressure is governed by the lowest maximum working pressure of the components.

NOTE It is the responsibility of the user, in consultation with the hose manufacturer, to establish the compatibility of the hose with the fluid to be used.

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

ISO 1817, *Rubber, vulcanized or thermoplastic — Determination of the effect of liquids*

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

ISO 6803, *Rubber or plastics hoses and hose assemblies — Hydraulic-pressure impulse test without flexing*

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

ISO 7326, *Rubber and plastics hoses — Assessment of ozone resistance under static conditions*

ISO 8033:2016, *Rubber and plastics hoses — Determination of adhesion between components*

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

ISO 10619-1:2017, *Rubber and plastics hoses and tubing — Measurement of flexibility and stiffness — Part 1: Bending tests at ambient temperature*

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ISO 10619-2, *Rubber and plastics hoses and tubing — Measurement of flexibility and stiffness — Part 2: Bending tests at sub-ambient temperatures*

3 Terms and definitions

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

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

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

— IEC Electropedia: available at https://www.electropedia.org/

4 Classification

4.1 Classes

Ten classes of hose are specified, distinguished by their maximum working pressure, as shown in Table 1. Each class may be manufactured in up to 14 nominal sizes.

Table 1 — Classes and nominal sizes

Class	**35**	**70**	**140**	**210**	**250**	**280**	**350**	**420**	**490**	**560**
MWP[a] (MPa)	3,5	7	14	21	25	28	35	42	49	56
MWP[a] (bar)	35	70	140	210	250	280	350	420	490	560
Nominal size										
5	X	X	X	X	X	X	X	X	N/A	N/A
6,3	X	X	X	X	X	X	X	X	N/A	N/A
8	X	X	X	X	X	X	X	X	N/A	N/A
10	X	X	X	X	X	X	X	X	N/A	N/A
12,5	X	X	X	X	X	X	X	X	N/A	N/A
16	X	X	X	X	X	X	X	X	X	X
19	X	X	X	X	X	X	X	X	X	X
25	X	X	X	X	X	X	X	X	X	X
31,5	X	X	X	X	X	X	X	X	X	X
38	X	X	X	X	X	X	X	X	N/A	N/A
51	X	X	X	X	X	X	X	X	N/A	N/A
63	X	X	X	X	X	X	X	N/A	N/A	N/A
76	X	X	X	N/A	N/A	N/A	N/A	N/A	N/A	N/A
102	X	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

X = Applicable;

N/A = Not applicable.

[a] Maximum working pressure.

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