



NSAI
Standards

Irish Standard
I.S. EN ISO 3949:2020&LC:2020

Plastics hoses and hose assemblies -
Textile-reinforced types for hydraulic
applications - Specification (ISO
3949:2020, Corrected version 2020-12)

I.S. EN ISO 3949:2020&LC:2020

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National Foreword

I.S. EN ISO 3949:2020&LC:2020 is the adopted Irish version of the European Document EN ISO 3949:2020, Plastics hoses and hose assemblies - Textile-reinforced types for hydraulic applications - Specification (ISO 3949:2020, Corrected version 2020-12)

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In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

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Corrected Version

Reference: EN ISO 3949:2020

Title: Plastics hoses and hose assemblies - Textile-reinforced types for hydraulic applications - Specification (ISO 3949:2020, Corrected version 2020-12)

Work Item: 00218231

Brussels, 2020-12-23

Please include the following minor editorial correction(s) in the document related to:

the following language version(s) :

- English
- French
- German

for the following procedure :

- PQ/UQ
- Enquiry
- 2nd Enquiry
- Parallel Enquiry
- 2nd Parallel Enquiry
- Formal Vote
- 2nd Formal Vote
- Parallel Formal Vote
- 2nd Parallel Formal Vote
- UAP
- TC Approval
- 2nd TC Approval
- Publication
- Parallel Publication

It has been brought to our attention that this document, issued on 2020-08-12, requires modification.

ISO has published (Corrected version 2020-12) of ISO 3949:2020.

Titles and Forewords have been updated accordingly for English and French versions.

We apologise for any inconvenience this may cause.

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EUROPEAN STANDARD

EN ISO 3949

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2020

ICS 23.100.40; 83.140.40

Supersedes EN ISO 3949:2018

English Version

**Plastics hoses and hose assemblies - Textile-reinforced
types for hydraulic applications - Specification (ISO
3949:2020, Corrected version 2020-12)**

Tuyaux et flexibles en plastique - Types hydrauliques
avec armature textile - Spécifications (ISO 3949:2020,
Version corrigée 2020-12)

Kunststoffschläuche und schlauchleitungen -
Textilverstärkte Typen für hydraulische Anwendungen
- Spezifikation (ISO 3949:2020, korrigierte Fassung
2020-12)

This European Standard was approved by CEN on 23 June 2020.

This European Standard was corrected and reissued by the CEN-CENELEC Management Centre on 23 December 2020.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN ISO 3949:2020 (E)

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European foreword

This document (EN ISO 3949:2020) has been prepared by Technical Committee ISO/TC 45 "Rubber and rubber products" in collaboration with Technical Committee CEN/TC 218 "Rubber and plastics hoses and hose assemblies" the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2021, and conflicting national standards shall be withdrawn at the latest by February 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 3949:2018.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 3949:2020, Corrected version 2020-12 has been approved by CEN as EN ISO 3949:2020 without any modification.

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INTERNATIONAL STANDARD

ISO 3949

Sixth edition
2020-07

Corrected version
2020-12

Plastics hoses and hose assemblies — Textile-reinforced types for hydraulic applications — Specification

*Tuyaux et flexibles en plastique — Types hydrauliques avec armature
textile — Spécifications*



Reference number
ISO 3949:2020(E)

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ISO 3949:2020(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.

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).

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).

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.

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 sixth edition cancels and replaces the fifth edition (ISO 3949:2018), which has been technically revised. The changes compared to the previous edition are as follows:

- the percentage change in the volume of the lining and cover in the test with water-based fluids has been changed from 0 % and +25 % to -15 % and +35 %;
- the percentage change in the volume of the lining and cover in the test with water has been changed from -10 % and +25 % to -15 % and +35 %.

This corrected version of ISO 3949:2020 incorporates the following correction:

- in [Table 6](#), the header in the third column that repeated “R7 and R8” has been corrected to “R18”.

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.

Plastics hoses and hose assemblies — Textile-reinforced types for hydraulic applications — Specification

1 Scope

This document specifies requirements for three types of textile-reinforced thermoplastics hoses and hose assemblies of nominal size from 3,2 to 25. Each type is divided into two classes dependent on electrical conductivity requirements.

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 $+93\text{ °C}$;
- water-based fluids HFC, HFAE, HFAS and HFB as defined in ISO 6743-4 at temperatures ranging from 0 °C to $+60\text{ °C}$
- water at temperatures ranging from 0 °C to $+60\text{ °C}$.

This document does not include any requirements for end fittings. It is limited to the performance of hoses and hose assemblies.

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 7326:2016, *Rubber and plastics hoses — Assessment of ozone resistance under static conditions*

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*

ISO 10619-2:2017, *Rubber and plastics hoses and tubing — Measurement of flexibility and stiffness — Part 2: Bending tests at sub-ambient temperatures*

ISO 17165-1, *Hydraulic fluid power — Hose assemblies — Part 1: Dimensions and requirements*

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