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Standards

Irish Standard  
I.S. EN ISO 3949:2020

# Plastics hoses and hose assemblies - Textile-reinforced types for hydraulic applications - Specification (ISO 3949:2020)

**I.S. EN ISO 3949:2020**

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*This document is based on:*

EN ISO 3949:2020

*Published:*

2020-08-12

*This document was published  
under the authority of the NSAI  
and comes into effect on:*

2020-08-30

ICS number:

23.100.40

83.140.40

NOTE: If blank see CEN/CENELEC cover page

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## National Foreword

I.S. EN ISO 3949:2020 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)

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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)**

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

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

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

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**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of an identical text or by endorsement, at the latest by February 2021, and conflicting national standards shall be withdrawn at the latest by February 2021.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 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

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## **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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Published in Switzerland

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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](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 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 %.

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).

# 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  $-40\text{ }^{\circ}\text{C}$  to  $+93\text{ }^{\circ}\text{C}$ ;
- water-based fluids HFC, HFAE, HFAS and HFB as defined in ISO 6743-4 at temperatures ranging from  $0\text{ }^{\circ}\text{C}$  to  $+60\text{ }^{\circ}\text{C}$
- water at temperatures ranging from  $0\text{ }^{\circ}\text{C}$  to  $+60\text{ }^{\circ}\text{C}$ .

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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