

This is a preview of "DS/EN ISO 1402:2021". [Click here to purchase the full version from the ANSI store.](#)

Slanger og slangeenheder af gummi og plast – Hydrostatisk prøvning

Rubber and plastics hoses and hose assemblies –
Hydrostatic testing (ISO 1402:2021)

DANSK STANDARD
Danish Standards Association

Göteborg Plads 1
DK-2150 Nordhavn

Tel: +45 39 96 61 01
dansk.standard@ds.dk
www.ds.dk

This is a preview of "DS/EN ISO 1402:2021". Click here to purchase the full version from the ANSI store.

DS projekt: M341696

ICS: 23.040.70

Første del af denne publikations betegnelse er:

DS/EN ISO, hvilket betyder, at det er en international standard, der har status både som europæisk og dansk standard.

Denne publikations overensstemmelse er:

IDT med: ISO 1402:2021

IDT med: EN ISO 1402:2021

DS-publikationen er på engelsk.

Denne publikation erstatter: [DS/EN ISO 1402:2009](#)

DS-publikationstyper

Dansk Standard udgiver forskellige publikationstyper.

Typen på denne publikation fremgår af forsiden.

Der kan være tale om:

Dansk standard

- standard, der er udarbejdet på nationalt niveau, eller som er baseret på et andet lands nationale standard, eller
- standard, der er udarbejdet på internationalt og/eller europæisk niveau, og som har fået status som dansk standard

DS-information

- publikation, der er udarbejdet på nationalt niveau, og som ikke har opnået status som standard, eller
- publikation, der er udarbejdet på internationalt og/eller europæisk niveau, og som ikke har fået status som standard, fx en teknisk rapport, eller
- europæisk præstandard

DS-håndbog

- samling af standarder, eventuelt suppleret med informativt materiale

DS-hæfte

- publikation med informativt materiale

Til disse publikationstyper kan endvidere udgives

- tillæg og rettelsesblade

DS-publikationsform

Publikationstyperne udgives i forskellig form som henholdsvis

- fuldttekstpublikation (publikationen er trykt i sin helhed)
- godkendelsesblad (publikationen leveres i kopi med et trykt DS-omslag)
- elektronisk (publikationen leveres på et elektronisk medie)

DS-betegnelse

Alle DS-publikationers betegnelse begynder med DS efterfulgt af et eller flere præfikser og et nr., fx **DS 383**, **DS/EN 5414** osv. Hvis der efter nr. er angivet et **A** eller **Cor**, betyder det, enten at det er et **tillæg** eller et **rettelsesblad** til hovedstandard, eller at det er indført i hovedstandard.

DS-betegnelse angives på forsiden.

Overensstemmelse med anden publikation:

Overensstemmelse kan enten være IDT, EQV, NEQ eller MOD

- **IDT:** Når publikationen er identisk med en given publikation.
- **EQV:** Når publikationen teknisk er i overensstemmelse med en given publikation, men præsentationen er ændret.
- **NEQ:** Når publikationen teknisk eller præsentationsmæssigt ikke er i overensstemmelse med en given standard, men udarbejdet på baggrund af denne.
- **MOD:** Når publikationen er modificeret i forhold til en given publikation.

This is a preview of "DS/EN ISO 1402:2021". [Click here to purchase the full version from the ANSI store.](#)

EUROPÄISCHE NORM

May 2021

ICS 23.040.70

Supersedes EN ISO 1402:2009

English Version

Rubber and plastics hoses and hose assemblies - Hydrostatic testing (ISO 1402:2021)

Tuyaux et flexibles en caoutchouc et en plastique -
Essais hydrostatiques (ISO 1402:2021)

Gummi- und Kunststoffschläuche und
Schlauchleitungen - Hydrostatische Prüfung (ISO
1402:2021)

This European Standard was approved by CEN on 20 April 2021.

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.

CEN members are the national standards bodies of 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 United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

This is a preview of "DS/EN ISO 1402:2021". [Click here to purchase the full version from the ANSI store.](#)

Contents

Page

European foreword..... 3

This is a preview of "DS/EN ISO 1402:2021". [Click here to purchase the full version from the ANSI store.](#)

European foreword

This document (EN ISO 1402:2021) 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 November 2021, and conflicting national standards shall be withdrawn at the latest by November 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 1402:2009.

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 1402:2021 has been approved by CEN as EN ISO 1402:2021 without any modification.

This is a preview of "DS/EN ISO 1402:2021". [Click here to purchase the full version from the ANSI store.](#)

This is a preview of "DS/EN ISO 1402:2021". [Click here to purchase the full version from the ANSI store.](#)

Fifth edition
2021-04

Rubber and plastics hoses and hose assemblies — Hydrostatic testing

Tuyaux et flexibles en caoutchouc et en plastique — Essais hydrostatiques



Reference number
ISO 1402:2021(E)

© ISO 2021

This is a preview of "DS/EN ISO 1402:2021". [Click here to purchase the full version from the ANSI store.](#)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

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
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

This is a preview of "DS/EN ISO 1402:2021". [Click here to purchase the full version from the ANSI store.](#)

Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 General	1
5 Apparatus	1
6 Test pieces	2
6.1 Hose assemblies.....	2
6.2 Hoses.....	2
6.3 Number of test pieces.....	2
7 Application of hydrostatic pressure	2
7.1 General.....	2
7.2 Procedure.....	2
8 Hydrostatic pressure tests	2
8.1 Proof pressure hold test.....	2
8.2 Measurement of deformation under pressure.....	3
8.2.1 General procedure.....	3
8.2.2 Change in length at the specified test pressure.....	3
8.2.3 Change in external diameter at the specified test pressure, measured at the approximate middle of the hose assembly.....	4
8.2.4 Twisting at the specified test pressure.....	5
8.2.5 Warping at the specified test pressure.....	5
8.3 Burst pressure test.....	5
8.4 Leakage test.....	6
8.4.1 Test pieces.....	6
8.4.2 Procedure.....	6
8.4.3 Criteria for failure.....	6
9 Test report	6
Bibliography	9

This is a preview of "DS/EN ISO 1402:2021". [Click here to purchase the full version from the ANSI store.](#)

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*, 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 1402:2009), which has been technically revised. The main changes compared to the previous edition are as follows:

- the tolerances of the pressure in [Figure 3](#), [7.2.2](#), [8.1](#) and [8.2](#) have been revised;
- the description of the failure mode in [8.3](#) has been revised.

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.

This is a preview of "DS/EN ISO 1402:2021". [Click here to purchase the full version from the ANSI store.](#)

Rubber and plastics hoses and hose assemblies — Hydrostatic testing

1 Scope

This document specifies methods for the hydrostatic testing of rubber and plastics hoses and hose assemblies, including methods for the determination of dimensional stability.

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 7751, *Rubber and plastics hoses and hose assemblies — Ratios of proof and burst pressure to maximum working pressure*

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

ISO 23529, *Rubber — General procedures for preparing and conditioning test pieces for physical test methods*