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NSAI Standards

Irish Standard
I.S. EN ISO 6801:2021

Rubber and plastics hoses - Determination of volumetric expansion (ISO 6801:2021)

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National Foreword

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 6801

December 2021

ICS 23.040.70

Supersedes EN 26801:1993, EN 26801:1993/A1:2011

English Version

Rubber and plastics hoses - Determination of volumetric expansion (ISO 6801:2021)

Tuyaux en caoutchouc ou en plastique - Détermination de l'expansion volumique (ISO 6801:2021)

Gummi- oder Kunststoffschläuche - Bestimmung der Volumenzunahme (ISO 6801:2021)

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Ref. No. EN ISO 6801:2021 E

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European foreword

This document (EN ISO 6801:2021) 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of an identical text or by endorsement, at the latest by June 2022, and conflicting national standards shall be withdrawn at the latest by June 2022.

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.

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INTERNATIONAL STANDARD

ISO 6801

Second edition
2021-11

Rubber and plastics hoses — Determination of volumetric expansion

Tuyaux en caoutchouc ou en plastique — Détermination de l'expansion volumique

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Foreword

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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).

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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 second edition cancels and replaces the first edition (ISO 6801:1983), which has been technically revised. It also incorporates the Amendment ISO 6801:1983/Amd.1:2011.

The main changes compared to the previous edition are as follows:

— deletion of alcohol as pressurizing fluid;

— addition of Clause 3.

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Introduction

When used for dispensing specific volumes of fluids, the volumetric capacity of a hose is often required to vary by only small amounts at the dispensing pressure. This document describes a method of checking that such requirements can be met.

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Rubber and plastics hoses — Determination of volumetric expansion

WARNING — Persons using this document should be familiar with normal laboratory practice. This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices.

1 Scope

This document specifies a method for the determination of the volumetric expansion of rubber or plastics hoses under hydrostatic pressure.

This document does not specify the dimensions of the test piece and the test pressure(s) as each of which is specified in the appropriate specification.

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

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 Apparatus

4.1 See Figure 1. The apparatus comprises a suitable source of fluid which can be maintained at the required pressure, together with pressure gauges, piping, valves and fittings, so that a vertical length of hose can be subjected to hydraulic pressure.

A graduated burette of sufficient accuracy is also required for measuring the volume of fluid corresponding to the expansion of the hose under pressure.

4.2 The bore of all piping and connections shall be smooth without recesses or off-sets, so that all air can be freely removed from the system before carrying out each test. The valves shall be of such design as to open and close with minimum displacement of fluid. The apparatus shall be capable of increasing the pressure in the test piece in accordance with ISO 1402. The rate of pressure increase shall be

a) between 0,075 MPa/s and 0,175 MPa/s for test pressures up to and including 12,5 MPa, and

b) between 0,35 MPa/s and 1,0 MPa/s for higher test pressures.

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