



NSAI
Standards

Irish Standard
I.S. EN ISO 8308:2015

Rubber and plastics hoses and tubing -
Determination of transmission of liquids
through hose and tubing walls (ISO
8308:2015)

I.S. EN ISO 8308:2015

Incorporating amendments/corrigenda/National Annexes issued since publication:

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN ISO 8308:2015 is the adopted Irish version of the European Document EN ISO 8308:2015, Rubber and plastics hoses and tubing - Determination of transmission of liquids through hose and tubing walls (ISO 8308:2015)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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EUROPEAN STANDARD

EN ISO 8308

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2015

ICS 23.040.70

Supersedes EN ISO 8308:2008

English Version

Rubber and plastics hoses and tubing - Determination of transmission of liquids through hose and tubing walls (ISO 8308:2015)

Tuyaux et tubes en caoutchouc et en plastique -
Détermination de la transmission des liquides à travers
les parois des tuyaux et des tubes (ISO 8308:2015)

Gummi- und Kunststoffschläuche mit und ohne
Einlagen - Bestimmung der Durchlässigkeit von
Schlauchwandungen gegenüber Flüssigkeiten (ISO
8308:2015)

This European Standard was approved by CEN on 29 August 2015.

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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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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN ISO 8308:2015 (E)

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 8308:2015) 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 April 2016, and conflicting national standards shall be withdrawn at the latest by April 2016.

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

This document supersedes EN ISO 8308:2008.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 8308:2015 has been approved by CEN as EN ISO 8308:2015 without any modification.

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INTERNATIONAL STANDARD

**ISO
8308**

Fourth edition
2015-10-01

Rubber and plastics hoses and tubing — Determination of transmission of liquids through hose and tubing walls

*Tuyaux et tubes en caoutchouc et en plastique — Détermination de la
transmission des liquides à travers les parois des tuyaux et des tubes*



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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Principle	1
3.1 Method A	1
3.2 Method B	1
4 Test liquid	1
5 Method A	2
5.1 Apparatus	2
5.2 Test pieces	2
5.3 Test temperature	3
5.4 Test pressure	3
5.5 Procedure	3
5.6 Expression of results	3
5.7 Test report	4
6 Method B	4
6.1 Apparatus	4
6.2 Test piece	5
6.3 Test temperature	5
6.4 Procedure	5
6.5 Expression of results	6
6.6 Test report	7

ISO 8308:2015(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).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Hoses (rubber and plastics)*.

This fourth edition cancels and replaces the third edition (ISO 8308:2006), which has been technically revised with changes in [Clause 1](#), [5.2](#), [5.4](#), [5.7 b\)](#) and [6.6 b\)](#).

Rubber and plastics hoses and tubing — Determination of transmission of liquids through hose and tubing walls

1 Scope

This International Standard specifies two methods for the determination of transmission of liquids through hose and tubing walls. Both methods are applicable to rubber and plastics hose and tubing, and comprise:

- method A, for all hose and tubing sizes and constructions: a practical comparative test, simulating working conditions;
- method B, for hose and tubing up to 16 mm inside diameter.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

ISO 4788, *Laboratory glassware — Graduated measuring cylinders*

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

3 Principle

3.1 Method A

This method is carried out on an assembly mounted in a test apparatus fitted with equipment to fill and measure a charged volume of a volatile liquid. The system is put under pressure, and the change in volume measured at 24 h intervals until the change has become constant with time, i.e. an equilibrium state has been reached. The test result is this steady-state evaporation rate, expressed as the volume of liquid lost per hour per unit inside surface area of the hose or tubing.

3.2 Method B

This method uses a pressureless reservoir. A length of hose or tubing is attached to the reservoir, the other end of the hose or tubing being plugged. The reservoir is partially filled with test liquid and sealed. The assembly is weighed at the start of the test, and once every 24 h for eight days. The test result is the maximum mass of liquid lost in any one 24 h period per unit inside surface area of the hose or tubing.

NOTE The method accounts for loss by permeation and evaporation and helps to minimize selective permeation of components in a fuel mixture since the liquid is agitated daily.

4 Test liquid

The test liquid shall be that specified in the appropriate product standard.

ISO 8308:2015(E)

5 Method A

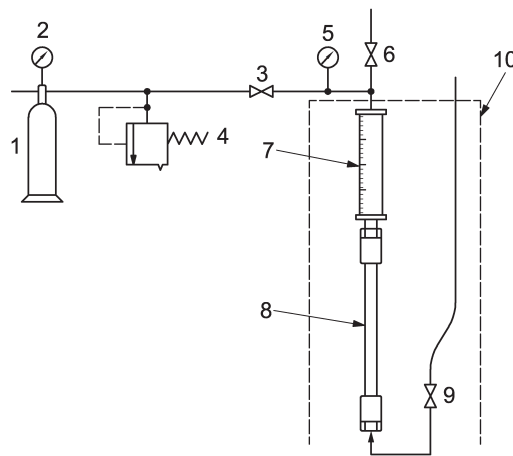
WARNING — Because of the presence of potentially hazardous vapours, ensure that this test is carried out in a well-ventilated area.

5.1 Apparatus

The apparatus consists of a nitrogen gas source connected to a pipe system. The gas pressure is controlled by a regulator and pressure gauge.

It is essential that the system be provided with a safety valve.

The test piece is fixed vertically and is connected to the apparatus at the top via a measuring cylinder conforming to ISO 4788 and at the bottom via a charging valve (see [Figure 1](#)).



Key

- 1 pressurized-nitrogen source
- 2 pressure regulator
- 3 main valve
- 4 safety valve
- 5 pressure gauge
- 6 venting valve
- 7 measuring cylinder
- 8 test piece
- 9 charging valve
- 10 safety shield

Figure 1 — Apparatus for method A

5.2 Test pieces

Each test piece shall be either a hose assembly with a free hose length of 250 mm, or a sample of tubing, in accordance with [Figure 2](#), fitted with suitable couplings and adapters.

Three test pieces shall be tested.

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