INTERNATIONAL STANDARD

ISO 8308

Third edition
2006-10-15

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

Reference number
ISO 8308:2006(E)

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Published in Switzerland

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 8308 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Hoses (rubber and plastics)*.

This third edition cancels and replaces the second edition (ISO 8308:1993), which has been technically revised, the main changes being made in the procedure for method 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 sizes and constructions: a practical comparative test, simulating working conditions;

— method B, for hose and tubing up to 16 mm internal diameter.

2 Normative references

The following referenced documents are indispensable for the application 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 4671, *Rubber and plastics hoses and hose assemblies — Methods of measurement of dimensions of hoses and length 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.