
**Thermoplastic tubing and hoses for
automotive use —**

**Part 1:
Non-fuel applications**

*Tubes et tuyaux en thermoplastique pour l'industrie automobile —
Partie 1: Applications sans carburant*



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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.

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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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*.

This third edition cancels and replaces the second edition (ISO 13775-1:2015), which has been technically revised.

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

- normative references have been updated ([Clause 2](#));
- [Clause 3](#) has been added.

A list of all parts in the ISO 13775 series can be found on the ISO website.

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.

Introduction

This document defines the requirements for extruded thermoplastic tubing/hoses for non-fuel applications for automotive use. In addition, it can be applied as a classification system to enable original equipment manufacturers (OEMs) to detail a “line call-out” of tests for specific applications where these are not covered by the four main types (see example in [Annex A](#)). In this case, the tubing or hose would not carry any marking referring to this document but may detail the OEM’s own identification markings as shown on their part drawings.

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Part 1: Non-fuel applications

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 health and safety practices and to ensure compliance with any national regulatory conditions.

1 Scope

This document specifies the test requirements and the test methods for extruded thermoplastic tubing and hoses for use in vehicles powered by internal-combustion engines, excluding use in air braking systems (see ISO 7628), fuel lines (see ISO 13775-2), and high-pressure hydraulic systems. This document is intended especially for use by original equipment manufacturers (OEMs).

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 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 1402, *Rubber and plastics hoses and hose assemblies — Hydrostatic testing*

ISO 1817:2015, *Rubber, vulcanized or thermoplastic — Determination of the effect of liquids*

ISO 3795, *Road vehicles, and tractors and machinery for agriculture and forestry — Determination of burning behaviour of interior materials*

ISO 3865:2020, *Rubber, vulcanized or thermoplastic — Methods of test for staining in contact with organic material*

ISO 4926, *Road vehicles — Hydraulic braking systems — Non-petroleum-based reference fluid*

ISO 7233, *Rubber and plastics hoses and hose assemblies — Determination of resistance to vacuum*

ISO 7628:2010, *Road vehicles — Thermoplastics tubing for air braking systems*

ISO 8031:2020, *Rubber and plastics hoses and hose assemblies — Determination of electrical resistance and conductivity*

ISO 8033, *Rubber and plastics hoses — Determination of adhesion between components*

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

ISO 10619-1, *Rubber and plastics hoses and tubing — Measurement of flexibility and stiffness — Part 1: Bending tests at ambient temperature*

ISO 30013, *Rubber and plastics hoses — Methods of exposure to laboratory light sources — Determination of changes in colour, appearance and other physical properties*