
**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*



This document is a preview generated by EBS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, 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
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
Introduction	v
1 Scope	1
2 Normative references	1
3 Classification and materials	2
4 Dimensions	2
5 Requirements	2
6 Frequency of testing	4
7 Marking	5
Annex A (informative) Example of how a non-standard type of hose or tubing could be specified using a matrix	6
Annex B (informative) Method for determining the resistance to surface-contaminating fluids	7
Annex C (normative) Cleanliness and extractables test	8
Annex D (normative) Type tests	10
Annex E (normative) Routine tests	11
Annex F (informative) Production tests	12
Bibliography	13

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 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, *Rubber and plastics hoses and hose assemblies*.

This second edition cancels and replaces the first edition (ISO 13775-1:2000), which has been technically revised.

ISO 13775 consists of the following parts, under the general title *Thermoplastic tubing and hoses for automotive use*:

- *Part 1: Non-fuel applications*
- *Part 2: Petroleum-based-fuel applications*

[Annex A](#), [Annex B](#), and [Annex F](#) of this part of ISO 13775 are for information only.

Introduction

This part of ISO 13775 defines the requirements of extruded thermoplastic tubing/hoses for non-fuel applications for automotive use. In addition, it can also 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 showing this part of ISO 13775, but may detail the OEM's own identification markings as shown on their part drawings.

Thermoplastic tubing and hoses for automotive use —

Part 1: Non-fuel applications

WARNING — Persons using this part of ISO 13775 should be familiar with normal laboratory practice. This part of ISO 13775 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 and to ensure compliance with any national regulatory conditions.

1 Scope

This part of ISO 13775 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 part of ISO 13775 is intended especially for use by original equipment manufacturers (OEMs).

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

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

ISO 1817, *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 3865:2005, *Rubber, vulcanized or thermoplastic — Methods of test for staining in contact with organic material*

ISO 4926, *Road vehicles — Hydraulic braking systems — Non-petroleum-base reference fluids*

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 8031:2009, *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 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*