



**International
Standard**

ISO 9853

**Thermoplastics piping systems —
Crushing test for moulded fittings**

*Systèmes de canalisations en matières thermoplastiques — Essai
à l'écrasement pour les raccords moulés*

**Second edition
2026-09**

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Foreword

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This document was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 5, *General properties of pipes, fittings and valves of plastic materials and their accessories — Test methods and basic specifications*.

This second edition cancels and replaces the first edition (ISO 9853:1991), which has been technically revised.

The main changes are as follows:

- the title has been revised;
- in the Scope, the following materials have been added: PVC- HI, PVC-C, PE, PP, ABS, PVDF, PPSU and PA-U;
- [Clause 2](#) on normative references have been added;
- the test parameters have been modified due to the addition of different materials;
- the requirements of test apparatus have been detailed.

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Introduction

Moulded fittings for thermoplastics piping systems can be crushed without their failing if they contain no residual stresses as a result of the moulding process. However, if these residual stresses are excessively high, the fitting will fail when a crushing force is applied.

The percentage deformation of a fitting, in relation to its initial diameter, constitutes a simple criterion for the selection of fittings having an acceptable level of internal stress.

Meanwhile, when fittings are the initial moulds from injection moulding process, some potential defects might also exist in these fittings. A crushing test can provide an effective acceptable level of internal stress for fittings.

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