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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 48035-2026

**Injection-moulded fittings for thermoplastics piping systems -
Crushing test**

热塑性塑料管道系统用注塑成型管件 压扁试验

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is modified to adopt ISO 9853:1991 "Flattening of injection-molded rigid polyvinyl chloride (PVC-U) fittings for pressure piping systems".

test".

This document has undergone significant structural adjustments compared to ISO 9853:1991. A table comparing the structural numbering changes between the two documents is provided.

See Appendix A.

The technical differences between this document and ISO 9853:1991, and the reasons therefor, are as follows.

---The range has been expanded to include high-impact polyvinyl chloride (PVC-HI), chlorinated polyvinyl chloride (PVC-C), polyethylene (PE), and polypropylene (PP).

Applications of pipe fittings made of materials such as acrylonitrile-butadiene-styrene (ABS), polyvinylidene fluoride (PVDF), and polyphenylene sulfone (PPSU).

---Added normative reference to GB/T 19278 (see Chapter 3);

---Added general terminology, revised the definition of deformation rate (see 3.1), and added a definition of weld line (see 3.2) to meet domestic requirements.

Use demand;

---The requirements for the test apparatus have been changed (see Chapter 5), and the equipment diagram from ISO 9853:1991 has been removed to conform to test operation requirements.

Require;

- The requirements for the test specimens have been changed (see Chapter 6);
- The requirements for specimen conditioning time have been changed (see Chapter 7) to meet testing requirements;
- A schematic diagram of the sample placement position has been added (see Figure 1) to clarify the sample location;
- Compression rate requirements for different materials have been added (see Table 1) to meet testing requirements;
- The wording of the test results has been changed (see 8.6 and 8.7) to meet the test requirements.

The following editorial changes have been made to this document.

- To harmonize with existing standards, the standard title has been changed to "Flattening Test of Injection Molded Fittings for Thermoplastic Piping Systems";
- Informative reference to GB/T 1040.1-2025 has been added (see 5.1).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China National Light Industry Council.

This document is under the jurisdiction of the National Technical Committee on Standardization of Plastic Products (SAC/TC48).

1 Scope

This document describes the principle, test apparatus, specimen, and specimen conditioning for the flattening test of injection-molded pipe fittings used in thermoplastic piping systems.

Sections and test reports.

This document applies to rigid polyvinyl chloride (PVC-U), high-impact polyvinyl chloride (PVC-HI), chlorinated polyvinyl chloride (PVC-C), and polyethylene.

Materials such as PE, polypropylene (PP), acrylonitrile-butadiene-styrene (ABS), polyvinylidene fluoride (PVDF), and polyphenylene sulfone (PPSU) are used for injection molding.

Molded pipe fittings.

This document also applies to injection-molded piping components with flow chambers, such as valve bodies and independent sockets.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 19278 General Terminology and Definitions for Thermoplastic Pipes, Fittings and Valves

3 Terms and Definitions

The terms and definitions defined in GB/T 19278 and the following terms and definitions apply to this document.

The percentage change in outer diameter relative to the initial outer diameter when a pipe fitting is flattened under stress.

Note: The deformation rate is calculated according to formula (1).

h_0-h_1

100% (1)

In the formula.

X --- Deformation rate;

h_0 --- The distance between the two pressure plates when the sample is in contact with the pressure plates and is not under force, in millimeters (mm);

h_1 ---The distance between the two pressure plates when flattening, in millimeters (mm).

Weld mark; weldline; knitline the marks formed on molded products due to the flow of two or more streams of material together.

Note: Also known as weld lines, weld lines, etc.

[Source. GB/T 2035-2024, 3.1449, with modifications]

4 Principles

Place the specimen between the two parallel pressure plates of the equipment and load it at a specified rate until the specified deformation rate is reached. Check the specimen for breakage.

If the sample is damaged, determine the type of damage.