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Thermoplastics piping systems for non-pressure underground drainage and sewerage — Thermoplastics inspection chamber and manhole bases — Test methods for buckling resistance

Systèmes de canalisations thermoplastiques pour branchements et collecteurs d'assainissement enterrés sans pression — Éléments de fond de boîtes d'inspection et de branchement et de regards thermoplastiques — Méthode d'essai de résistance au flambage



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Foreword

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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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This document was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 1, *Plastics pipes and fittings for soil, waste and drainage (including land drainage)*.

This second edition cancels and replaces the first edition (ISO 13267:2010), which has been technically revised.

The main changes are as follows:

— normative references have been updated;

— definitions have been removed;

— technical changes have been made in 8.1, including new figures;

— minor editorial changes have been made.

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.

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Thermoplastics piping systems for non-pressure underground drainage and sewerage — Thermoplastics inspection chamber and manhole bases — Test methods for buckling resistance

1 Scope

This document specifies methods of test for the resistance of the base of thermoplastics inspection chambers and manholes to external soil and ground-water pressure after installation.

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 9967:2016, *Thermoplastics pipes — Determination of creep ratio*

CEN/TS 1046:2021, *Thermoplastics piping and ducting systems — Outside the building structures for gravity and pressurised systems — Trench installation*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Principle

A sealed test assembly, comprising an inspection chamber or manhole base with a minimum height of 300 mm above the top of the main channel, is placed free standing, or buried in a test box on a 100 mm sand or granular bed and covered with granular backfill to a level of minimum 300 mm above the top of the outlets and inlets of the main channel(s). In some cases, the first section of the riser may be required in order to achieve the minimum height of 300 mm.

The assembly is then subjected to a constant internal negative pressure, specified by the product or system standard, for a specified time at a temperature of between 15 °C and 25 °C or as otherwise specified in the product standard.

Alternatively, the pressure difference can be achieved by exposing the test assembly to a constant positive external hydrostatic pressure of the same numeric value as that specified by the product or system standard. The assembly is submerged under water in a closed tank for a specified time at a temperature of between 15 °C and 25 °C or as otherwise specified in the product standard.

During the test, the assembly may be monitored by measuring increasing deflections with time as defined in the product standard.

At the end of the test, the chamber base/manhole is visually checked for cracking or other defects likely to impair the performance of the inspection chamber or manhole.

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