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

GB/T 18476-2019

**Polyolefin pipes for the conveyance of fluids - Determination of
resistance to crack propagation - Test method for slow crack
growth (notch test)**

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1 Scope

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5.1 Pipe hydrostatic test equipment. According to the provisions of GB/T 6111-2018.

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 18476-2001 "Determination of crack propagation resistance of polyolefin pipes for fluid transport.

The test method of rapid growth (incision test), compared with GB/T 18476-2001, the main technical changes are as follows.

---Modified mill milling length requirements (see 5.2,.2001 edition 4.2);

--- Increased state adjustment requirements before sample preparation (see 6.1);

--- Increase the focus of free length (see 6.2);

--- Increased dimensional measurement requirements (see 6.3);

--- Increased attention to the processing of the incision (see 6.4.2);

--- Added the requirements for measuring and recording the depth of each incision and the remaining wall thickness of the incision (see 6.4.3);

---Modified state adjustment time requirements (see Chapter 7, Chapter 6 of the.2001 edition);

--- Modified the remaining thickness of the pipe cut. dn180, SDR7.4 cut wall thickness maximum modified from 20.0mm to 20.2mm;

The maximum wall thickness of dn250 and SDR7.4 cuts was changed from 26.0mm to 28.0mm (see Appendix A, 2001 edition 5.3.1);

--- Delete the minimum damage time of PE80 and PE100 materials should not be less than 165h (see Appendix B, Appendix A of 2001 edition).

This standard uses the redrafting method to modify the ISO 13479:2009 "Determination of crack propagation resistance of polyolefin pipes for fluid transport.

Test Method for Slow Growth of Notched Pipe Cracks.

The main technical differences between this standard and ISO 13479:2009 and their reasons are as follows.

---About the normative reference documents, this standard has made technical adjustments to adapt to China's technical conditions, adjustments

The situation is reflected in Chapter 2, "Regulatory Citations", and the specific adjustments are as follows.

* Removed ISO 161-1 and ISO 11922-1;

* Replace ISO 1167-1 and ISO 1167-2 with GB/T 6111-2018 which is not equivalent to the international standard;

* Replace ISO 6108 with GB/T 6128.2-2007 modified to adopt international standards;

* Replace ISO 3126 with GB/T 8806-2008 equivalent to the international standard;

* Added GB/T 19278-2018.

This standard has made the following editorial changes.

---Modify the standard name to the test method for determining the crack growth of the polyolefin pipe for fluid transport.

(Incision test).

1 Scope

This standard specifies the test method for determining the slow crack growth resistance of polyolefin pipes for fluid transport.

The time of failure under hydraulic conditions is indicated.

This standard applies to polyolefin pipes with a wall thickness greater than 5mm.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 6111-2018 Determination of internal pressure resistance of thermoplastic piping systems for fluid transport (ISO 1167-1.2006;

ISO 1167-2.2006; ISO 1167-3.2007; ISO 1167-4.2007, NEQ)

GB/T 6128.2-2007 Angle milling cutters Part 2. Symmetric double angle milling cutters (ISO 6108. 1978, MOD)

GB/T 8806-2008 Determination of dimensions of plastic parts for plastics piping systems (ISO 3126.2005, IDT)

GB/T 19278-2018 General terms and definitions for thermoplastic pipes, fittings and valves

3 Terms and definitions

The terms and definitions defined in GB/T 19278-2018 apply to this document.

4 Principle

Four longitudinal slits are machined on the outer surface of the pipe by mechanical processing, and then the sample is immersed according to the requirements of GB/T 6111-2018

The hydrostatic test was carried out in a water bath at 80 ° C, and the failure time was recorded, and the failure time was expressed as the slow crack growth resistance of the pipe.

Note. Set according to the test parameters specified or specified in the international standards.

- a) the number of samples (see 6.5);
- b) test pressure (see 8.1);
- c) Test time (see 8.1).

5.1 Pipe hydrostatic test equipment. According to the provisions of GB/T 6111-2018.

5.2 Cutting processing equipment. For example. a milling machine with a fixture that holds

the specimen horizontally.

If a mandrel is required during processing, it should be placed inside the pipe directly under the slit to support the specimen.

According to the requirements of GB/T 6128.2-2007, the milling cutter mounted on the horizontal arbor should be a V-shaped milling cutter with an angle of 60°. The milling rate is (0.010 +/- 0.002) (mm/r)/tooth (see example).

GB/T 18476-2019

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National Standards of People's Republic of China

Replace GB/T 18476-2001

Polyolefin pipe for fluid transportation

Determination of crack propagation resistance

Test method for slow crack growth (incision test)

Polyolefin pipes for the conveyance of fluids - Determination of resistance to

crack propagation - Test method for slow crack growth (notch test)

(ISO 13479:2009, Polyolefin pipes for the conveyance of fluids -

Determination of resistance to crack propagation -

Test method for slow crack growth on notched pipes, MOD)

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