

# INTERNATIONAL STANDARD

**ISO**  
**10146**

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## **Crosslinked polyethylene (PE-X) pipes — Effect of time and temperature on the expected strength**

*Tubes en polyéthylène réticulé (PE-X) — Influence du temps et de la  
température sur la résistance espérée*



Reference number  
ISO 10146:1997(E)

## 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10146 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*.

Annex A forms an integral part of this International Standard.

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# Crosslinked polyethylene (PE-X) pipes — Effect of time and temperature on the expected strength

## 1 Scope

This International Standard lays down the minimum values for expected strength as a function of time and temperature in the form of reference lines for use in calculations on crosslinked polyethylene (PE-X) pipes.

## 2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1167:1996, *Thermoplastics pipes for the conveyance of fluids — Resistance to internal pressure — Test method*.

## 3 Definition

For the purposes of this International Standard, the following definition applies.

**3.1 reference lines:** A generic description of the minimum long-term hydrostatic strength to be expected from a particular polymer.

### NOTES

- 1 Reference lines are not to be considered as characteristic of a specific grade or of material from a specific supplier.
- 2 The lines are described by a mathematical equation which permits interpolation and extrapolation in an unambiguous way at various temperatures.
- 3 The reference lines for crosslinked polyethylene (PE-X) have been agreed upon by a group of experts after considering experimental data, and have been accepted by the relevant technical committees in ISO.