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Polyethylene (PE) pipes — Determination of longitudinal reversion — Liquid bath immersion method

Tubes en polyéthylène (PE) — Détermination du retrait à chaud longitudinal — Méthode du bain liquide

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2506 was drawn up by Technical Committee ISO/TC 138, *Plastics pipes and fittings for the transport of fluids*, and circulated to the Member Bodies in August 1971.

It has been approved by the Member Bodies of the following countries :

Australia	Ireland	Sweden
Austria	Israel	Switzerland
Belgium	Italy	Thailand
Chile	Japan	Turkey
Czechoslovakia	New Zealand	United Kingdom
Denmark	Poland	U.S.A.
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France	Romania	
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The Member Bodies of the following countries expressed disapproval of the document on technical grounds :

Norway
South Africa, Rep. of

Polyethylene (PE) pipes — Determination of longitudinal reversion — Liquid bath immersion method

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the longitudinal reversion of low or high density polyethylene (PE) pipes.

2 PRINCIPLE

Immersion of a test portion of pipe of given length in an inert liquid maintained at a temperature consistent with the type of PE, for 30 min.

Measurement, under the same conditions, of a marked length of this portion of pipe, before and after immersion.

Calculation of the reversion as a percentage of the variation in length in relation to the initial length.

3 APPARATUS

3.1 Heating bath thermostatically controlled at 100 ± 2 °C or 110 ± 2 °C.

The volume of the bath shall be such that there is practically no temperature variation while the test pieces are immersed.

Water for the low density PE, and ethylene-glycol for the high density PE, may constitute the most appropriate heating media.

It shall be ensured in all events that the liquid chosen is stable at the temperatures required and that it does not affect the product being examined.

Provision shall be made for effective agitation to ensure that the temperature tolerance is maintained throughout the heating medium.

3.2 Device to hold the test pieces at the centre of the heating medium.

3.3 Thermometer, graduated in 0,5 °C.

4 TEST PIECES

4.1 Take as a test piece a length of pipe of 150 ± 20 mm.

4.2 Using, for example, a scribe, trace on this test piece two circumferential marks 100 mm apart, and at equal distances from the two ends.

4.3 Prepare three similar test pieces per pipe.

5 CONDITIONING

Condition the test pieces for at least 2 h at 23 ± 2 °C.

6 PROCEDURE

6.1 Measure at 23 ± 2 °C the distance between the marks to within 0,25 mm.

6.2 Regulate the temperature of the heating medium to

100 ± 2 °C for low density PE;

110 ± 2 °C for high density PE.

6.3 Place the test pieces in the heating medium. The test pieces shall be placed so that they touch neither the walls nor the base of the bath.

6.4 Leave the test pieces immersed for 30 min.

6.5 Remove the test pieces from the bath, and after complete cooling to 23 ± 2 °C, measure, under the same conditions as in 6.1, the distance between the marks along the maximum and minimum generating lines (diametrically opposed).