



Transport
Roads & Maritime
Services

Test method T1501

Head reversion test for plastics

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Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Reformatted and Revision Summary Added	D.Dash	June 2001
Ed 2/ Rev 0	All	Reformatted RMS template	J Friedrich	November 2012

Note that Roads and Maritime Services is hereafter referred to as 'RMS'.

The most recent revision to Test method T1501 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T1501

Head reversion test for plastics

1. Scope

This test method sets out the procedure for determining the heat reversion properties of thin walled plastic products such as corrugated, perforated subsoil drainage pipes. It is derived from Australian Standard AS1254-1973 "Unplasticized PVC (UPVC) Pipes and Fittings for Storm Water or Surface Water Applications", Appendix C.

2. Apparatus

A thermostatically controlled bath capable of maintaining the temperature of the heat transfer medium at the specified temperature within a range of $\pm 2^\circ\text{C}$. A suitable form of apparatus is shown in AS1254-1973.

3. Heat Transfer Medium

Suitable heat transfer media are ethanediol (ethylene glycol) complying with BS 2537 or polyethylene glycol having a molecular weight not less than 600.

4. Test Specimen

The test specimen consists of a complete section of pipe, approximately 300 mm long, cut from one pipe selected at random and representing the batch, lot or extrusion run under test, having two circumferential marks 100 ± 1 mm apart around the periphery so that one of these marks is approximately 15 mm from one end of the specimen.

5. Procedure

- (a) Measure the distance between the two marks to within 0.25 mm at $20 \pm 2^\circ\text{C}$ after conditioning the test at this temperature for at least two hours. Regulate the temperature of the heat transfer medium to the prescribed temperature
- (b) Suspend the test piece vertically in the heating medium by the end farthest from the marks, so that the portion of the test piece which is not immersed is not greater than 100 mm
- (c) Allow the test piece to remain suspended in this way, without touching the walls or floor of the bath, for 15 minutes

6. Calculation and Report

Calculate the variation of the distance between the marks on the test piece as a percentage, by means of the formula:

$$T = \frac{L}{L_0} \times 100$$

Where

T = Percentage length variation or longitudinal revision

$L = L_0 - L_1$

L_0 = Distance in mm between the marks before the test

L_1 = Distance in mm between the marks after the test

Choose those measurements L_1 which give the greatest value of L where L may be positive or negative.

NOTE: This means that the greatest variation of L must be sought, as the test pieces are usually no longer rectilinear after the test.

7. Technique

The density of the plastic may be either greater or less than that of the heat transfer medium. Different methods may therefore need to be employed to restrain the movement of the immersed specimen to maintain it in the correct alignment without imposing any deforming forces.