
**Plastics piping systems —
Thermoplastics pipes and fittings for hot
and cold water — Test method for the
resistance of joints to pressure cycling**

*Systèmes de canalisations en plastiques — Tubes en matières
thermoplastiques et raccords pour l'eau chaude et froide — Méthode
d'essai de la résistance des assemblages aux cycles de pression*



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Foreword

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Plastics piping systems — Thermoplastics pipes and fittings for hot and cold water — Test method for the resistance of joints to pressure cycling

1 Scope

This International Standard specifies a method for testing the resistance of joints to pressure cycling. It is applicable to piping systems based on thermoplastics pipes intended to be used in hot and cold water applications.

2 Principle

An assembly of pipes and fittings is subjected to water pressure cycling between two positive pressure limits, while being maintained at a specified temperature and inspected for leakage.

NOTE It is assumed that the following test parameters are set by the reference standard (i.e. the standard making reference to this International Standard), as applicable (see Clause 4):

- a) the test temperature;
- b) the number of test pieces;
- c) the test pressure limits;
- d) the duration of one cycle;
- e) the number of cycles.

3 Apparatus

3.1 Pressurizing device, capable of applying and regulating the water pressure in the test piece in a sinusoidal or trapezoidal form between pressure limits as specified in the reference standard.

3.2 Pressure measurement device, capable of measuring the water pressure in the test piece to an accuracy of ± 5 %. The device measurement shall be capable of producing a record of the sinusoidal or trapezoidal wave form.

3.3 Test chamber, capable of maintaining the specified test temperature (see Clause 4) to an accuracy of ± 2 °C.

3.4 Thermometer(s), capable of checking conformity to the specified test temperature (see 3.3).

3.5 End-sealing device, of appropriate size and sealing method for sealing the non-joined end of the test piece. The device shall be restrained in a manner which does not exert longitudinal forces on the joints.

A typical test arrangement is shown in Figure 1.