

Plastics piping systems — Thermoplastics pipes and fittings for hot and cold water — Test method for the resistance of mounted assemblies to temperature cycling

The European Standard EN 12293:1999 has the status of a
British Standard

ICS 23.040.20; 23.040.45

National foreword

This British Standard is the official English language version of EN 12293:2000.
The UK participation in its preparation was entrusted to Technical Committee PRI/61, Plastics piping systems and components, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

The responsible UK committee gives the following advice concerning the use and interpretation of this British Standard.

a) In **3.2 a)** and in **3.3** reference is made to “water velocity”. This is residual text from the draft standard which should have been changed to reflect redrafting of **3.1 a)**, of **3.3** and of clause **7** to to remove references to water velocity and/or to relate instead to the specified limits for the temperature variation throughout the test piece. For consistency with the wording of **3.1 a)**, of **3.3** and of **6.2** in EN 12293:1999, it is considered that in **3.2 a)** the words “(see **6.2**)” should now be read as “(see **3.3**)”.

b) In **3.8**, the tensioning device is required to stress the pipe to the stress given in the referring standard. At the time of going to print, neither the referring standards nor this standard provide enough detail to calculate the force needed. In principle, this force could be based on actual pipe dimensions (if so, the detail is required as to how and where it is to be measured) or taken from the referring standard (if this is the case then the standard might choose to require use of nominal or of specified minimum or maximum valves for the thickness and likewise for the diameter; differing results will be obtained depending upon the options specified). If a stress or force has to be quantified, then this standard needs details of the equation to be used relative to specific actual or nominal dimensions of the pipe.

The equation could be based on either type of dimension, taking either worst-case or mid-tolerance values.

This British Standard, having been prepared under the direction of the Sector Committee for Materials and Chemicals, was published under the authority of the Standards Committee and comes into effect on 15 May 2000

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Amendments issued since publication

Amd. No.	Date	Comments

In the absence of any specific requirements in the standard or specification making reference to this standard, the responsible UK committee recommends that 3.8 is read as though worded as follows.

“3.8 Tensioning device, capable of applying the force, F_i , necessary to achieve the required initial tensile stress (see 5.3) when the force is determined using the following equation:

$$F_i = 0,25\pi[(d_{em,max.})^2 - \{d_{em,max.} - 2(e_{min.} + t_e)\}^2] \quad (1)$$

where

$d_{em,max.}$ is the maximum mean outside diameter specified in the referring standard

$e_{min.}$ is the minimum wall thickness specified in the referring standard

t_e is the maximum positive tolerance specified for the wall thickness in the referring standard.”

and in 5.3, following “referring standard” insert “(see 3.8).

c) In clause 4, item a) requires a minimum of three pre-stressed pipes for branch A as shown in Figure 1. The stress conditions during the test may be significantly affected by the number of joints in that branch if any movement is possible within each joint. UK experience indicates that there is some permanent slip at each pipe socket interface during the first cycle. This may be as little as 0,5 mm. If there are six interfaces on the stressed length (one at each end of three pipes) then there may be at least 3 mm permanent set. If however 10 straight double-socket connectors are used there would be 20 pipe/socket interfaces and hence at least 10 mm permanent set. This would make a significant difference to the stress in the pipe for the duration of the test. The UK committee recommends therefore that the number of pipes in branch A should not be more than five, and should preferably be just three.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

WARNING This British Standard, which is identical with EN 12293:1999, does not necessarily detail all the precautions necessary to meet the requirements of the Health and Safety at Work etc. Act 1974. Attention should be paid to any appropriate safety precautions and the method should be operated only by trained personnel.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

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