Australian Standard™

Plastics—Glass filament reinforcement plastics (GRP)—Methods of test

Method 16: Testing of flexible joints of glass filament reinforced plastics pipes

1 SCOPE

This Standard sets out the method for conducting type tests on flexible joints.

2 PRINCIPLE

A sample incorporating the flexible joint is subjected to a range of pressure, angular deviation, draw, diametral distortion and misalignment conditions to demonstrate the leak proof capability and material strength of the joint.

3 APPARATUS

The following is required:

(a) *End sealing devices* End sealing devices that are appropriate to the system being tested. They shall be anchored to take the end thrust resulting from internal pressure without supporting the joint.

(b) *Special supports* Special supports may be required for the misalignment test conditions to minimize distortion or local buckling. These supports should be positioned not less than one pipe diameter from the joint.

(c) *Straps or cradles* Straps or cradles supporting an 180° arc of the pipe barrel to apply the shear force for the misalignment tests. The strap or cradle on one side shall be anchored to a fixed base, and the strap or cradle on the other shall be loaded by a suitable method.

(d) *Force measurement equipment* The measuring equipment shall allow the applied force to be measured with an accuracy of ±5%.

NOTE: Forces applied shall be calculated having regard to the mass of the pipe, its support and contents.

4 TEST CONDITION

Tests shall be conducted at ambient temperature.

5 TEST SPECIMENS

The test specimen shall consist of the joint under test coupled to pipe of appropriate class and stiffness, assembled according to the manufacturer's instructions.

The joint under test shall be located in the middle of the test unit.

Total specimen length shall be not less than 10 times the nominal pipe size, with a maximum of one production pipe length including sealing caps.