Australian Standard™

AS 3572.11

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

Method 11: Determination of the initial ring deflection of glass filament reinforced plastics pipes

1 SCOPE

This Standard sets out a method for determining the initial ring deflection of glass filament reinforced plastics (GRP) pipes.

2 PRINCIPLE

A section of pipe is subjected to a compressive load. The load is applied until a specified deflection is reached, and the inside layer is examined for damage. The load is then increased until a second specified deflection is reached and the specimen is re-examined for structural damage.

3 REFERENCED DOCUMENTS

The documents below are referred to in this Standard.

AS

3572 Plastics—Glass filament reinforced plastics (GRP)—Methods of test

3572.1 Method 1: Preparation of glass filament reinforced plastics test specimens

3572.4 Method 4: Determination of the dimensions of glass filament reinforced plastics pipes

4 APPARATUS

The following is required:

(a) *General* The apparatus shall consist of two parallel bearing plates or beam bars between which the specimen is compressed by an external load. The load shall be applied to the specimen with only negligible friction losses (see Figure 1).

NOTE: If deflections are likely to exceed 28%, beam bars should be used.

(b) *Loading plates* Loading plates, if used, shall be not less than 5 mm thick and should not bend or deform during the test. Their length shall be equal to or greater than the specimen length.

(c) *Beam bars* For a pipe specimen with a nominal diameter less than 300 mm, the beam bars, if used, shall be 20 ±5 m in diameter. For a larger diameter pipe, the bars shall be 50 ±5 m in diameter.

(d) *Force and deflection measuring equipment* The accuracy of measurement of force shall be ±1.0% of the indicated value. For measurement of deflection, the accuracy shall be within ±1.0% of the maximum measured value of change or 0.1 mm, whichever is the greater.