

Australian Standard®

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

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

1 SCOPE. This Standard sets out the method for determining the dimensions of glass filament reinforced plastics pipes, i.e. outside diameter, wall thickness, length, inside diameter and squareness of pipe ends.

2 REFERENCED DOCUMENTS. The documents below are referred to in this Standard.

AS

1293 Retractable steel pocket rules

1294 Coated and etched steel measuring tapes

1984 Vernier callipers (metric series)

2102 External micrometers (metric series)

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

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

3 CONDITIONING. Test specimens shall be conditioned in accordance with AS 3572.1. Except for referee tests, conditioning shall be at ambient conditions.

4 DETERMINATION OF OUTSIDE DIAMETER.

4.1 Apparatus. Diameter tape having maximum divisions of 0.5 mm.

4.2 Procedure. Measure the outside diameter with the diameter tape ensuring that the tape is held parallel to a plane which is perpendicular to the axis of the pipe.

Values shall be rounded off to the nearest 0.5 mm.

4.3 Report. The following information shall be reported:

- (a) Full identification of the pipe tested.
- (b) Outside diameter (D_o).

5 DETERMINATION OF WALL THICKNESS.

5.1 Apparatus. External calliper having a fixed spherical anvil of 5 mm nominal radius and providing an accuracy of ± 0.1 mm.

NOTE: Other methods, e.g. ultrasonic testing, which can be shown to provide an accuracy of the same or of a higher degree may be used.

5.2 Procedure.

5.2.1 Wall thickness and minimum wall thickness. The procedure shall be as follows:

- (a) Using the calliper, take four wall thickness measurements equally spaced around the circumference, at right angles to the axis of the pipe and at the same pipe section location used to determine the outside diameter in accordance with Clause 4. The wall thickness shall be the arithmetic mean of the four measurements.
- (b) Determine and record the minimum wall thickness obtained. Round off values to the nearest 0.1 mm.

5.3 Report. The following information shall be reported:

- (a) Full identification of the pipe tested.
- (b) Wall thickness (T).
- (c) Minimum wall thickness.