

Australian Standard™

AS 3572.12

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

Method 12: Determination of initial failure pressure and initial hoop strength of glass filament reinforced plastics pipes

1 SCOPE

This Standard sets out four alternative methods for determining the initial failure pressure and the initial hoop strength of glass filament reinforced plastics (GRP) pipes.

2 PRINCIPLE

2.1 Internal pressure tests

Two test methods use internal hydraulic pressure as follows:

- (a) *24-hour test* A specimen is subjected to an internal hydraulic pressure for 24 h, which represents the minimum acceptable performance level of the pipe. The specimen is then subjected to higher pressure until failure.
- (b) *0.1 hour test* A specimen is subjected to an internal hydraulic pressure in a defined procedure until failure occurs.

2.2 Mechanical tests

Two mechanical test methods, the split disc and tensile plate tests, introduce a simulated hoop stress in a pipe wall to determine a failure stress and to permit the calculation of a failure pressure.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1349	Bourdon tube pressure and vacuum gauges
1984	Vernier callipers (metric series)
2102	Micrometre callipers for external measurement
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 CONDITIONING

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