Australian Standard™

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

Method 2: Determination of chemical resistance of glass filament reinforced plastics

1 SCOPE

This Standard sets out a method* for determining the chemical resistance of glass filament reinforced plastics.

This method is intended for use as a relatively rapid test to evaluate the chemical resistance of glass filament reinforced plastics under anticipated service conditions. It provides for the determination of changes in surface hardness, appearance and flexural strength of the test specimens after exposure to various reagents.

The method is applicable for broad characterization of chemical resistance of glass filament reinforced plastics.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
2132	Methods for the determination of flexural properties of plastics
3572	Plastics — Glass filament reinforced plastics (GRP) — Methods of test
3572.1	Method 1: Preparation of glass filament reinforced plastics test specimens

3 GUIDELINES IN MATERIALS SELECTION

Selection of materials in terms of their long-term corrosion and erosion resistance should be established by tests or proven by documentation of past experience.

In assessing the relevance of tests results, and past experience, consideration should be given to the following:

(a) Unstressed dip coupon testing of sample laminates will not necessarily give a valid indication of the long-term resistance of the material to the actual internal and external chemical and physical environment.

(b) Relatively small changes in the concentration of organic solvents and any fluctuations in the operating temperatures can have marked effect on the chemical resistance of a GRP laminate.

(c) Glass filament reinforced plastics may be subject to occasional applied loads or impacts, which are not part of the normal operating conditions, and may not be simulated in a laboratory by immersion tests.

* This test method is based on ASTM C 581, *Standard practice for determining chemical resistance of thermosetting resins used in glass fibre reinforced structures, intended for liquid service.*

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