

Official Test Results

APR's wood plastic composite material has undergone rigorous testing in National Association of Testing Authorities (NATA) laboratories in the following categories:

- Dry flexural testing - how much the product bends before breaking when dry
- Wet flexural testing - how much the product bends before breaking when wet
- Compression testing - how much the product compresses under strain
- Water absorption - how much moisture the product absorbs
- Chemical resistance - the absorption of chemicals and the effect it has on dry flexural strength
- Screw withdrawal testing - how much force is required to pull a screw vertically outwards
- Tensile testing - the degree to which the product stretches
- Flammability testing - the product's resistance to fire

Dry Flexural Testing

Loading speed: 30mm/min Support span: 90mm
Maximum Flexural Strength: 3.86kN // 393.6kgf

Wet Flexural Testing

Loading speed: 30mm/min Support span: 90mm
Maximum Flexural Strength: 3.88kN // 395.6kgf

Compression Testing

Test method: ASTM 6108
Maximum Stress face: 27.95 MPa

Water Absorption Testing

Test method: ASTM D570
Water absorption after 21 days: 4.87%

This test shows that APR products have a very high capacity to flex without breaking. What's more, this capacity actually increases when wet, making them ideal for both dry and marine environments.

It takes a large amount of force to dent or damage the surface of an APR product!

APR's products absorb very little water when fully submerged, and what water is absorbed actually makes them stronger!

Official Test Results

Chemical Resistance (28 days' exposure)

Test method: ASTM D543

Chemical	Absorption (%)	Peak Load (kN)
Blank	0.2	24.25
Oil	1.07	23.72
Acid	6.8	22.55
Alkali	28.55	15.3
Chlorine	7.6	22.5
Oxidising	5.39	22.15

APR products are highly resistant to most external chemical influences, and retain their flexural strength particularly well in most conditions.

Screw Withdrawal Testing

Test method: ASTM D6117

Maximum Force face: 1741 MPa

Few natural forces can exert the amount of force required to remove a screw once it's been screwed into an APR product.

Tensile Testing

Test method: ASTM D6117

Sample dimensions 49.75 x 44.3 mm

Failure load: 25300N

UTS: 11.5 MPa

Elongation: 1.5%

Essentially, APR products will not stretch!

Flammability Testing

Test method: AS/ISO 9239.1-2003

Critical Radiant Flux: 1.1kW

Smoke value: 610% min

The combination of recycled plastic and recycled wood makes the material far more resistant to fire than wood or plastic individually.

Complete test details available by request.

All figures indicated in this summary sheet are the average results from multiple test samples

Specifications or results are likely to change due to continual improvement.

All tests performed in a NATA accredited laboratory