Composite Bonding Angles have been designed to provide a quick and effective means for making right angle joints between composite sandwich panels. Bonding angles are faster and easier to install than standard taped joints and ideal for inaccessible areas where fibreglass taping would be difficult.

Bonding Angles consist of multiaxial E-glass in a high performance epoxy matrix, with the fibre direction tailored for optimum load carrying capability and stiffness. The angles are manufactured with peel ply to provide a textured surface to aid in secondary bonding, and the peel ply is removed prior to supply.

The automated construction process ensures a consistently superior fibre content and high quality finish.

This combination of resin matrix, fibre content and orientation assures optimum mechanical properties while the use of an epoxy adhesive enhances the bond strength.

Composite Bonding Angles are lighter than equivalent aluminium, steel or timber sections with superior resistance to corrosion and fatigue, and no wet-layup is required as with standard taped sections since they are simply installed with appropriate surface preparation and an epoxy adhesive.

Typical applications include marine- deck, hull, bulk-head and flooring attachments; road transportation – truck beds, bodies, side walls and bus floor supports; industrial applications – floors, walls, roofs and cabinetry.

PERFORMANCE DATA

Test	Specimen Thickness 1	Specimen Thickness 2	Nominal Area Resisting Shear (mm^2)	Failure Load (kN)/ Failure Mode	Apparent Shear Strength (MPa)
1	21	21	48,400	77.6 part shear through polyester bond: part tearing	1.60
2	14	14	30,400	68.5 kN shear through epoxy bond	2.25

In both circumstances, failure of the joins was through the adhesive rather than the Bonding Angle

Queensland University of Technology (QUT)
Test report CET 4149/3 – tensile tests to fibreglass connections – fins.
Sample Data: Specimen 1 – polyester bonded: Specimen 2 – epoxy bonded
Test equipment – Grade A Tinius Olsen Universal Testing Machine, loading rate = 5mm/min

Adhesives

ATL Composites specify the following high density epoxy adhesive for use with our FRP Bonding Angles

- Techniglue CA – 2:1 pre-mixed epoxy adhesive
- WEST SYSTEM epoxy resin/hardener thickened with 413 Microfibre Blend
- Pro-Set® Cartridge Adhesive

Storage

FRP Bonding Angles should be stored flat, and kept dry and clean.

FRP BONDING ANGLES

Order Code*	Description	Leg Length	Nominal Weight
ANT3042	90° Bonding Angle	42 mm	0.30 kg/m
ANT5084	90° Bonding Angle	84 mm	1.00 kg/m

All bonding angles are supplied in 2400mm lengths

ATL composites

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