

Product Sales Tool *Composite Bonders*

Permabond offers a range of single part and two part epoxies and modified epoxy technology products for the bonding of composites such as GRP, FRP, Carbon fibre, laminate and wood.

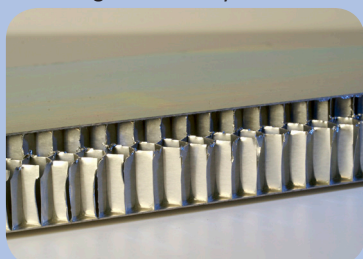
Application Examples



↑ Bonding carbon fibre bike parts



↑ Bonding vehicle bodywork



↑ Laminating honeycomb composite



↑ Bonding GRP public area furnishings



↑ Bonding marine composites

	Benefits	Limitations
Mechanical Fixings	<ul style="list-style-type: none"> • Tried, tested and trusted • Less mess • No shelf life or storage issues 	<ul style="list-style-type: none"> • Higher component weight • Drilling holes could compromise structural integrity of parts • Poor appearance • Rattling / noise during use • Vibration loosening
MMA-based Structural Acrylic	<ul style="list-style-type: none"> • Rapid strength development • High peel strength • Good gap fill ability (pre-mix) • Toughened - good impact resistance and peel strength 	<ul style="list-style-type: none"> • Flammability and odour • Short open time so assembly must be fairly quick • Limited gap fill (no-mix systems)
Single Part Epoxy	<ul style="list-style-type: none"> • Ultimate strength performance • Resistant to high temperatures • No mixing required • Good finished appearance - can be colour matched 	<ul style="list-style-type: none"> • Requires heat cure in an oven • Storage and shelf life
Two Part Epoxy	<ul style="list-style-type: none"> • No heat cure required • Good finished appearance - can be colour matched • High strength bonding to a variety of composite materials 	<ul style="list-style-type: none"> • Mixing required (guns, nozzles or measuring out) • Wastage of unused mixed adhesive • Slow cure speed
Modified Technology 2-Part Epoxy	<ul style="list-style-type: none"> • Enhanced temperature resistance • Soft and flexible • Good impact resistance • Low shrinkage minimises thru-print • Non-hazardous for transport • High peel strength 	<ul style="list-style-type: none"> • Mixing required (guns, nozzles or measuring out) • Wastage of unused mixed adhesive
2-Part Polyurethane	<ul style="list-style-type: none"> • Non-hazardous for transport • High peel strength • Enhanced temperature resistance 	<ul style="list-style-type: none"> • Mixing required, short nozzle life • Wastage of unused mixed adhesive • Slow to achieve working strength

Competition

Permabond Grade	Competitive Grade	Permabond Advantage
TA4246	Loctite F246	Better wettability and compatibility between resin and initiator
ES5681	Araldite AV118	Better stability, less transportation issues
ET5428	Scotchweld DP410	Better temperature resistance, cost-effective alternative. Comparable performance.
ET5429	Scotchweld DP490	Better temperature resistance, cost-effective alternative. Comparable performance

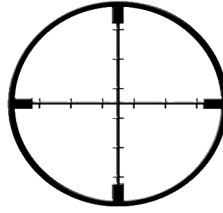
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Product Sales Tool *Composites Bonders*

Industries to Target

- Automotive - car parts, motorcycle parts
- Transport - bus, train, tram
- Caravans, camper vans
- Reservoir & sewage covers
- Electronics enclosures
- Prosthetic limbs
- Shopfitting & fascias
- Aerospace & airport vehicles, furniture and fittings
- Public furniture - benches, seating
- Marine composites
- Sporting equipment - golf clubs, rackets, fishing rods



Finding Manufacturers

UK - Check out the Applegate directory (www.applegate.co.uk) and head to the products index. From there you can select the desired industry e.g. industrial racking / shelving etc.

UK, Europe, Asia and Australasia - Kompas (see www.kompass.com) is searchable by country and by product. This will yield potential manufacturing leads in your region. Alibaba directory is quite useful for middle Eastern and Asian leads and Ferret.com.au for Australia.

Americas - Thomas directory (www.thomasnet.com) is a popular source of information regarding manufacturers of specific products.

Alternatively, Permabond is more than happy to investigate specific target areas for you and can also advise of any branches of multinational Permabond users who may be in your area.

Additional Resources

Application Profiles Available:

- Carbon fibre gangway
- Kite boards
- Toilet seats
- Motorcycle composites
- Caravan interior
- Golf clubs
- Marble composite panels
- Rowing boats
- Scene of crime tent
- Aircraft seat tray
- Submarine battery
- Composite shutter
- Fishing rods

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• **Asia + 86 21 5773 4913**

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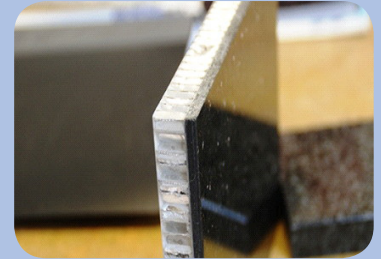
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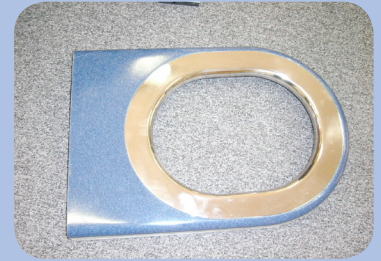
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...More Application Examples



↑ Bonding marble composite for worktop



↑ Bonding public toilet seats



↑ Caravan and campervan bonding



↑ GRP building fascia



↑ Bonding GRP sewage covers

Permabond
Engineering Adhesives

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