Permabond®
Engineering Adhesives

ADHESIVES FOR HEAT EXCHANGERS



Adhesives are a cost-effective solution for sealing heat exchanger tubes onto endplates and are popular alternatives to welding or brazing. The result is a superior leak-free assembly.

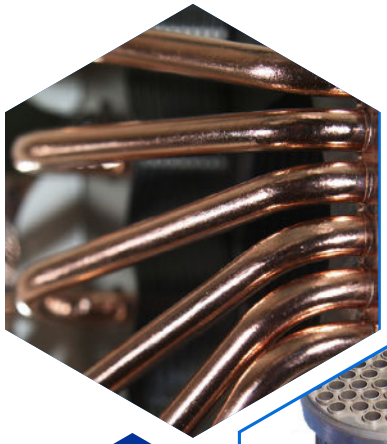
Adhesives offer design engineers the opportunity to choose lightweight but durable non-metal substrates and to combine dissimilar materials without sacrificing performance requirements.

Permabond adhesives offer excellent resistance to oil, water, coolants, and gases. This makes them suitable for assembly and repair of all sizes of heat exchangers in a variety of industries, such as automotive, HVAC, and marine.

KEY FEATURES & BENEFITS:

Benefits of Permabond adhesives and sealants over welding or brazing

- Less skill involved – no need for a trained welder
- Reduced workplace hazards – no oxy-acetylene needed
- No pin prick weld holes; improved sealing
- Ability to use dissimilar materials like plastic & metal
- Excellent aesthetic appearance
- Reduced costs







IDEAL FOR BONDING:

- ABS
- Acrylic
- Aluminum
- Carbon Fiber
- Composite
- EPDM
- FRP/GRP
- Ferrite
- Glass
- Laminate
- Leather
- Nylon
- Phenolic
- Polycarbonate
- Polypropylene*
- Polyethylene*
- Polystyrene
- PVC
- Rubber
- Steel
- Titanium
- Zinc

...and many more!

*Specific grades only

ADHESIVES FOR HEAT EXCHANGERS

Here is a small selection of our most popular adhesive grades suitable for use in a range of heat exchanger applications. If you can't see exactly what you require, please contact our technical advisors with information about your application and your particular requirements and we will make a recommendation. The Permabond team provides support through the design phase, sample trials and production line integration. Whether you require technical support, custom formulations or small batch production, please contact us.

Features	Typical Applications	Cure method	Viscosity (mPa.s) cP	Handling time	Max. shear strength steel (MPa) psi	Temperature range (°C) °F
Permabond UV7141 UV and anaerobic curing adhesive for bonding metals and other substrates.	Heat exchangers - for sealing around tubes.	UV light and Anaerobic - lack of oxygen, presence of metal	1350	5 seconds	(17) 2500	(-55 to +150) -65 to +300
Permabond ES558 Flows like solder when heated	Heat exchangers - for flowing and sealing around tubes	No mix, heat cure (oven) or induction	200,000	60 mins (full strength at 150°C / 300°F oven cure)	(41) 6000	(-40 to +180) -40 to +350
Permabond ES550 Toughened epoxy, excellent chemical and temperature resistance	Heat exchangers - for creating fillets around the tubes / endplates. Bonding heat exchanger fins	No mix, heat cure (oven) or induction	150,0000	60 mins (full strength at 150°C / 300°F oven cure)	(41) 6000	(-40 to +180) -40 to +350
Permabond MT3809 Flexible epoxy - ideal for plastic and metal	Potting/sealing flutes in cooling devices	Two component room temperature cure	12,500	30 mins (full cure in ≥72 hours)	(8) 1200	(-40 to +120) -40 to +250
Permabond MT382 Flexible epoxy - ideal for metal	Potting/sealing flutes in cooling devices	Two component room temperature cure	21,500	2 hours (full cure in ≥72 hours)	(7) 1000	(-40 to +120) -40 to +250
Permabond HM161 Anaerobic curing adhesive. Use with **Permabond ASC10** to cure the surface of the sealant	For sealing various components	Anaerobic	2000	10 mins (full cure in 24 hours)	(24) 3500	(-55 to +150) -65 to +300
Permabond 737 Cyanoacrylate Use with **Permabond POP** for EPDM or silicone gaskets	Bonding rubber gaskets.	Cyanoacrylate	3000	<20 seconds (full cure in 24 hours)	(21) 3000	(-55 to +120) -65 to +250

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