

Permabond TA435 is a structural acrylic adhesive designed primarily for bonding metals, ferrites, ceramics and some thermoplastics. This adhesive may be used in a variety of structural bonding applications due to its versatile performance capabilities. TA435 provides high strength while maintaining excellent flexibility, resulting in tough, durable bonds with outstanding impact and peel resistance. Handling strength is achieved in a few minutes at room temperature by using Permabond Initiator 41.

Physical Properties

Chemical type	Modified acrylic – solvent free
Colour	Off-white liquid
Viscosity	90,000 mPa.s
Density	1.1
Ratio of use	10:1.5 approximately

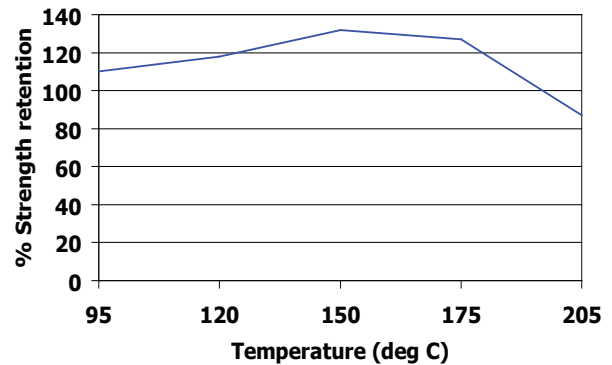
Typical Performance

Cure Speed	Gap [†] : ~0mm 0.25mm 0.5mm	<2 minutes 10 minutes 20 minutes
Gap fill		Up to 0.5mm
Fixture time		50-90 seconds
Working strength		30-60 minutes
Full strength	DIN 53283	24 hours
Shear strength	ASTM D-1002	25 MPa (steel)
Peel strength	ISO4578	100 N/25mm
Tensile strength	DIN 53288	25 MPa
Impact strength	ASTM D-950	25 Nmm/mm ²
Coefficient of thermal expansion	ASTM D-696	80 x 10 ⁻⁶ 1/K
Thermal conductivity	ASTM C-177	0.1 W/m ² K
Dielectric constant	ASTM D-150	4.6 Mhz
Dielectric strength	ASTM D-149	30-50 KVmm
Volume resistivity	ASTM D-257	2 x 10 ¹³ Ohm.cm
Service temperature*		-50 to +120°C

[†]This information should be used as a guide only, since values obtained depend on the specific nature of the surfaces involved.

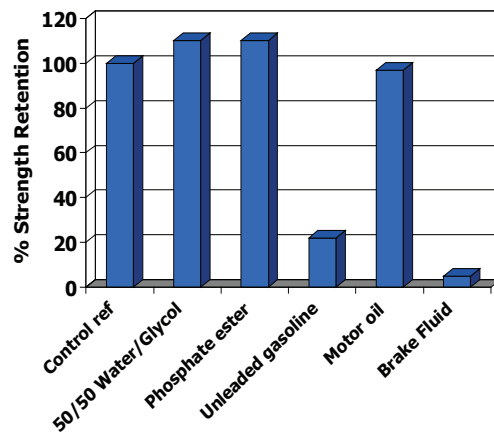
*Higher temperatures may be endured for short periods providing the parts are not unduly stressed.

Temperature Performance



All values were generated on as received steel lap shears as described in ASTM D-1002. Adhesive was cured at room temperature for 48 hours prior to environmental exposure. Test pieces were assembled with no induced gap and subjected to continuous exposure for 1000 hours before testing at room temperature.

Chemical Resistance



Specimens were immersed for 30 days at 85°C and tested at room temperature.

This product is not recommended for use in contact with strong oxidizing materials.

Where aqueous washing systems are used to clean the surfaces before bonding, these aqueous washes can affect the cure and performance of the adhesive. This product may affect some thermoplastics and users must check compatibility of the product with such substrates.

Surface Preparation

Surfaces should be clean, dry and grease free before applying the adhesive. Permabond Cleaner A is recommended for the degreasing of most surfaces. Some metals such as aluminium, copper and its alloys will benefit from light abrasion with emery cloth (or similar), to remove the oxide layer.

Adhesive Application

- Surfaces must be clean, dry and grease free prior to bonding.
- Apply Initiator 41 to one surface.
- Apply adhesive to the other surface.
- Assemble the components using sufficient force to spread the adhesive thinly. Parts should be bonded immediately and within a maximum of two hours of applying the Initiator.
- Maintain pressure until handling strength is achieved. The time required will vary according to the joint design and surfaces being bonded.
- Allow 24 hours for adhesive to fully cure. Accelerated cure times may be achieved by heating.

Storage and Handling

Storage Temperature	5 to 25°C
Shelf Life Stored in original unopened containers	12 months

Users are reminded that all materials, whether innocuous or not, should be handled in accordance to the principles of good industrial hygiene. Full information can be obtained from the Material Safety Data Sheet.

Other Products Available

Anaerobics

- Toughened
- Gas & water approved
- High temperature resistance
- Flexible

Cyanoacrylates

- Low bloom / low odour
- Flexible
- High temperature resistance

Epoxies

- Fast cure
- Toughened
- Flexible grades

Toughened Acrylics

- Rapid cure
- Low odour

UV Light Cured

- Glass / plastic bonding
- Optically clear
- Non-yellowing

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