Structural Acrylics

Permabond structural acrylic adhesives are suitable for bonding a wide variety of materials. The rapid, room-temperature cure coupled with high strength and durability, make these adhesives ideal for demanding applications where speed and ease of application of the adhesive is important.

Permabond structural acrylic adhesives are suitable for a variety of applications.

They are ideal for structural bonding of metals, composites, plastics, glass, wood and other materials. Permabond's structural acrylic adhesives offer excellent durability and resist tensile, peel, cleavage and impact forces. They resist the stresses of differential thermal expansion when bonding dissimilar materials.

Permabond structural acrylics are formulated with chemical resistance in mind, so are suitable for applications that involve exposure to oils, greases, moisture and weathering.

Typical applications include:

- Magnet bonding (particularly for electric motors)
- Metal & glass furniture manufacturing
- Street signs
- Rear view mirror attachment
- Structural bonding - e.g. aluminium stiffeners
- Shopfittings and facias

Permabond offers several types of structural acrylic adhesive;

No-Mix Adhesive & Initiator
Initiator is applied to one of the bonding surfaces and the adhesive to the other. Suited to bonding close fitting parts, this system provides a long open time and a short cure time.

Bead on Bead Part A & Part B
A bead of one part is applied directly over a bead of the other part. No hand mixing is required. When the two components are pressed together, enough mixing will take place to cure the adhesive.

2-Part Pre-Mix Resin & Hardener
Adhesive is supplied in convenient 1:1 cartridges for use with a dispensing gun. Adhesive is dispensed via a static mixing nozzle directly onto the substrate material.

Single Component - No mixing required
These adhesives are simple to apply and cure with or without an activator (activator can be used to reduce cure times to seconds and to cure through larger gaps).

Benefits

- Room temperature cure - eliminates ovens and other equipment.
- Rapid cure - increases daily output to reduce production costs.
- Non-flammable and solvent-free formulations available - provides a safe and comfortable work environment.
- Versatile - suitable for bonding a wide variety of substrates to increase design freedom.
- Technical support- application specialists available for assistance with joint design, adhesive selection and production process.

Permabond®
Engineering Adhesives

Structural Acrylic Product Chart

T-E-Klebetechnik
Anwendungs-, Verfahrens- und Dosiertechnik
40 Jahre Klebstofferfahrung

Grade	Features	Colour	Viscosity (mPa.s)	Max. Gap Fill (mm)	Fixture Time (no gap)	Working Strength (mins)	Shear Strength (MPa)	Service Temperature (°C)
TA430 & Initiator 41	Very high strength bonding of metals, plastics, ceramics and wood. Fast cure on close fitting parts.	Resin: Amber Initiator: Brown Mixed: Amber	20rpm: 20,000 2.5rpm: 50,000	0.5	1-2 mins	40-60	15-25	-55 to 120
TA435 & Initiator 41	Very high strength bonding of metals, ferrites and thermoplastics. High impact applications.	Resin: Amber Initiator: Brown Mixed: Amber	20rpm: 30,000 2.5rpm: 70,000	0.5	1-2 mins	30-60	15-25	-55 to 120
TA436 & Initiator 43	Very high strength bonding of metals, ferrites and hard plastics. High impact and high temperature applications.	Resin: Amber Initiator: Green Mixed: Green	20rpm: 25,000 2.5rpm: 60,000	0.5	20-30 secs	30-60	15-25	-55 to 150
TA437	Single component. To bond ferrites and metals. For high temperature applications. Initiator 41 will accelerate cure	Resin: Orange *(Initiator: Brown)* *(Mixed: Dark orange)*	20rpm: 40,000 2.5rpm: 130,000	0.5	5-10 mins *(20-30 secs with Initiator 41)*	60-120 *(30-60 with Initiator 41)*	14-20	-55 to 200
TA439 & Initiator 43	Methacrylic acid free structural adhesive for magnet bonding. Ideal for sealed electric motors. High temperature resistance.	Resin: Amber Initiator: Green Mixed: Amber	20rpm: 1,000	0.15	20-40 secs	3-5	20-25	-55 to 165
TA440	Bead on bead for rapid bonding of metal, glass, wood and rigid plastics.	Resin: Amber Initiator: Green Mixed: Green	20rpm: 10,000 (mixed)	0.5	15-30 secs	30-60	15-25	-55 to 120
TA459 & Initiator 43	High viscosity version of TA439	Resin: Blue Initiator: Green Mixed: Blue	20rpm: 20,000 2.5rpm: 80,000	0.5	20-40 secs	3-5	20-25	-55 to 165
TA4246 & Initiator 46	No-mix resin and initiator for high strength bonding of metal, glass, composites and plastics.	Resin: Amber Initiator: Brown Mixed: Amber	20rpm: 23,000	0.5	1-2 mins	15-30	33-35	-40 to 120
TA4200	2-part 1:1 rapid curing, gap filling, toughened. Ideal for structural bonding of aluminium.	Part A: Cream Part B: Cream Mixed: Cream	20rpm: 45,000 (mixed)	4	7-10 mins	25-35	23-25	-40 to 120
TA4202	2-part 1:1 very rapid cure, can be applied bead on bead, multipurpose.	Part A: Pink Part B: Green Mixed: Purple	20rpm: 4,000 (mixed)	0.5	2-3 mins	20-25	19-21	-40 to 120
TA4204	2-part 1:1 very rapid cure. Can be applied bead on bead; multipurpose. Crystal clear appearance.	Part A: Clear Part B: Clear Mixed: Clear	Thixo paste	3	1:30-2:30 mins	20-25	24-25	-40 to 120
TA4205	2-part 1:1 rapid cure. Can be applied bead on bead; multipurpose. Crystal clear appearance.	Part A: Clear Part B: Clear Mixed: Clear	Thixo paste	3	3-4 mins	25-30	19-21	-40 to 120
TA4210	2-part 1:1 longer handling time than TA4200, gap filling, toughened. Ideal for structural bonding of aluminium.	Part A: Cream Part B: Green Mixed: Dark beige	20rpm: 45,000 (mixed)	4	20-25 mins	50-60	23-25	-40 to 120
TA4392 & Initiator 41	Thermally conductive grade, ideal for bonding electronic components.	Resin: White Initiator: Brown Mixed: Cream	Thixo paste	0.5	10-30 secs	3-5	16-20	-55 to +165
TA4590 & Initiator 44	Methacrylic acid free structural adhesive for sensitive electronic components. Helps prevent corrosion of copper parts.	Resin: Blue Initiator: Green Mixed: Turquoise	20rpm: 20,000 2.5rpm: 90,000	0.5	15-30 secs	2-3	20-25	-55 to +165