Permabond TA430
Technical Information Sheet

STRUCTURAL ACRYLIC ADHESIVE

PRODUCT DESCRIPTION

Permabond TA430 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.
TA430 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

PROPERTIES OF UNCURED PRODUCT (typical values)

Base Resin:	Modified acrylic – solvent free
Appearance:	Off-white liquid
Density, 25ºC	1,1
Flash Point, TCC	>80ºC
Viscosity, 25ºC Brookfield	
Spindle 6 @ 20 rpm	20,000 – 40,000 mPa.s
Shelf life at 20°C	1 year when stored between 5 and 25°C

CURING PROPERTIES

TA430 is designed to be used with Initiator 41 and cured at room temperature.

Gap	Handling Time at 20°C
Nominal zero:	120 sec.
0.25mm/0,010“gap:	10 min.
0.50mm/0,020“gap:	20 min.

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

PROPERTIES OF CURED PRODUCT (typical values)

Ratio of use Adhesive/Activator		100:10/20
Handling time		1 - 3 minutes
Working Strength		30-60 minutes
Full Cure		24 hours
Maximum Gap Fill		0.5 mm
Shear strength	(DIN 53283)	18 - 30 MPa
Tensile strength	(DIN 53288)	15 - 25 MPa
Peeling strength	(ISO 4578)	50-75 N/25 mm
Impact strength	(ASTM D-950)	15 - 25 Nmm/mm^2
Coefficient of thermal expansion	(ATM D696)	80 X 10^{-6} 1/K
Thermal conductivity	(ASTM C177)	0,1 W/m°K
Dielectric constant	(ASTM D150)	4,6 Mhz
Volume resistivity	(ASTM D257)	2 X 10^{13} Ohm.cm
Dielectric strength	(ASTM D149)	30 - 50 KV/mm
Temperature resistance		- 40° + 120°C

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ENVIRONMENTAL RESISTANCE

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 temperture:

Test Temperature	% strength retention
95ºC	110
120ºC	118
150º C	132
175º C	127
205º C	87

Solvent Resistance

Specimens were immersed for 30 days at 85ºC and tested at room temperature

Chemical	% strength retention
Air Reference	100
50/50 Water/Glycol	110
Phosphate Ester	110
Unleaded Gasoline	22
Motor Oil	97
Brake fluid	5

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.

Directions for Use

Applying and curing TA430

1. Surfaces but surfaces must be clean, dry and grease free prior to bonding.
2. Apply Initiator 41 to one surface.
3. Apply adhesive to the other surface.
4. 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
5. Maintain pressure until handling strength is achieved. The time required will vary according to the joint design and surfaces being bonded.
6. Allow 24 hours for adhesive to fully cure. Accelerated cure times may be achieved by heating.

Storage

TA 430 and Initiator 41 should be stored in a cool dry place at temperatures between 5 and 25°C

Handling and Safety

For detailed information on the handling of this material please refer to the Material Safety Data Sheet.

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