Technical data sheet

Product:	TA4610
Manufacturer:	PERMABOND ENGINEERING ADHESIVES
Product group:	KLEBSTOFF
Article group:	2-K KLEBSTOFF
Download:	27.06.2025

PERMABOND® TA4610

This data sheet was provided to you by Tewipack Uhl GmbH. The company tewipack Uhl GmbH assumes no responsibility for the topicality and the Accuracy of the information contained. The properties of the products can vary due to various influences such as composition and condition of the Substrate, impurities in or on the substrate, temperature and humidity at the Change storage and environmental conditions during use. Using this product in combination with other material, the customer is responsible for to check through our own tests whether the product is suitable for the planned combination and whether this combination delivers the expected results

Tewipack Uhl GmbH
Industriestraße 15
D-75382 Althengstett

Telephone:
+49(0)7051/9297-0
Fax:
+49(0)7051/9297-99

E-Mail:
info@tewipack.de
Website:
www.tewipack.de

Managing director:
Alexander Uhl,
Michael Uhl
HRB 330424
Amtsgericht
Stuttgart

Bank details:
Sparkasse
Pforzheim
Calw
BLZ 666 500
85
Konto 17 787

Commerzbank
Sindelfingen
BLZ 603 400 71
Konto 8 001 166

Vereinigte
Volksbank AG
Böblingen
BLZ 603 900 00
Konto 80 089
003

Postbank
Stuttgart
BLZ 600 100
70
Konto 146
294 708

PERMABOND® TA4610

Toughened Acrylic Adhesive

Technical Datasheet

Features & Benefits

- Adhesion to a wide variety of substrates
- Full cure at room temperature
- Bonds polyolefins
- No primer required
- Good impact strength
- Good chemical resistance
- Bonds underwater
- Great water resistance

Description

PERMABOND® TA4610 is a 2-part, 1:1 toughened acrylic adhesive. It has been developed to bond low surface energy plastics such as polypropylene and polyethylene – with no primer or surface treatment required. It can also be used to bond a wide variety of other materials such as metals and composite materials and is ideal for bonding dissimilar surfaces.

Physical Properties of Uncured Adhesive

	TA4610 A	**TA4610 B**
Chemical composition	Methacrylate	Methacrylate
Colour	Off-white	Almost colourless
Mixed colour	Off-white	
Viscosity @ 25°C	200,000-500,000 mPa.s *(cP)* Thixo	20,000-30,000 mPa.s *(cP)*
Specific gravity	1.0	1.0

Typical Curing Properties

Ratio of use	1 : 1
Maximum gap fill (NB: Contains microparticles to control gap)	1 mm *(0.04 in)*
Pot life (2g+2g) @23°C	5-8 minutes
Fixture time *(0.1 N/mm² shear strength is achieved)* @23°C	12-15 minutes
Handling time *(0.3 N/mm² shear strength is achieved)* @23°C	40-50 minutes
Working strength @23°C	6-8 hours
Full cure @23°C	48 hours

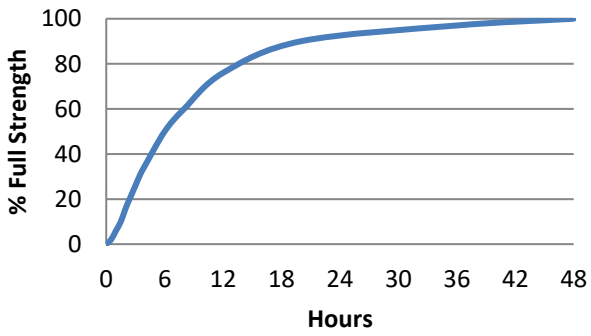
Typical Performance of Cured Adhesive

Shear strength†	Polypropylene: 8 N/mm² *(1200 psi)**
	Polyethylene: 7 N/mm² *(1000 psi)**
	HDPE: 15 N/mm² *(2175 psi)*
	PTFE: 2 N/mm² *(290 psi)**
	Mild Steel to PTFE: 2 N/mm² *(290 psi)**
	Mild Steel to PP: 7 N/mm² *(1015 psi)*
	Mild Steel to HDPE: 7 N/mm² *(1015 psi)*
	Stainless Steel: 5 N/mm² *(725 psi)*
	Stainless Steel to PP: 5 N/mm² *(725 psi)*
	Stainless Steel to HDPE: 5 N/mm² *(725 psi)*
	Aluminium to PP: 4 N/mm² *(580 psi)*
	Aluminium to HDPE: 4 N/mm² *(580 psi)*
	Carbon Fibre: 8 N/mm² *(1160 psi)*
	Epoxy FRP: 13 N/mm² *(1885 psi)*
	Polyester GRP: 10 N/mm² *(1450 psi)*
	ABS: 4 N/mm² *(580 psi)**
	Polycarbonate: 5 N/mm² *(725 psi)**
	PVC: 5 N/mm² *(725 psi)**
	EPDM: 3.5 N/mm² *(500 psi)**
	PA6: 5 N/mm² *(725 psi)*
	PET-G: 5 N/mm² *(725 psi)**
	PET-P: 5 N/mm² *(725 psi)**

**Substrate failure was observed.*

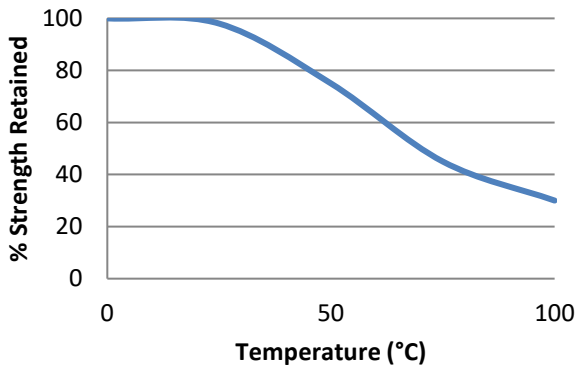
†Nature of surface, surface preparation, glue-line thickness, thickness of substrates, pull speed, batch variation, cure time and temperature will all affect the shear strength measurement.

Strength Development



Graph shows typical strength development of bonded components at 23°C. Curing at higher or lower temperatures may affect cure speed.

Hot Strength



Fully cured lap shear specimens conditioned to pull temperature for 30 minutes before testing at temperature.

TA4610 can withstand higher temperatures for brief periods (such as for paint baking and wave soldering processes) providing the joint is not unduly stressed. The minimum temperature the cured adhesive can be exposed to is -55°C depending on the materials being bonded.

Additional Information

This product is not recommended for use in contact with strong oxidizing materials. This product may affect some thermoplastics and users must check compatibility of the product with such substrates.

Information regarding the safe handling of this material may be obtained from the safety data sheet (SDS).

Users are reminded that all materials, whether innocuous or not, should be handled in accordance with the principles of good industrial hygiene.

This Technical Datasheet (TDS) offers guideline information and does not constitute a specification.

Storage & Handling

Storage Temperature	Cartridges: 5 to 25°C ***(41 to 77°F)*** Bulk: 2 to 7°C ***(35 to 45°F)***

This product may separate slightly – in this instance, invert container to re-disperse.

Surface Preparation

Surfaces should be clean, dry and grease-free before applying the adhesive. Polyolefin surfaces may have traces of mold release agent present – wipe with isopropanol (IPA) solvent and allow to fully evaporate before bonding. If bonding to metal: some metals such as aluminium, copper and its alloys will benefit from light abrasion with emery cloth (or similar) to remove the oxide layer.

Directions for Use

1) Surfaces must be clean, dry and grease-free prior to bonding.
2) Apply a thin bead of adhesive pre-mixed through a static mixer nozzle.
3) Assemble components and clamp.
4) Maintain pressure until handling strength is achieved. The time required will vary according to the joint design and surfaces being bonded.
5) Allow 24-36 hours for adhesive to fully cure.

NB: Adhesive outside of a closed joint (i.e. excess material) will cure more slowly and may feel soft due to air contact. Adhesive inside the joint will cure solid.

Video Links

Surface preparation:
https://youtu.be/8CMOMP7hXjU

Structural acrylic directions for use:
https://youtu.be/YVeKBCVVhYo

www.permabond.com
- ***UK: 0800 975 9800***
- ***General Enquiries: +44 (0)1962 711661***
- ***US: 732-868-1372***
- ***Asia: + 86 21 5773 4913***

info.europe@permabond.com
info.americas@permabond.com
info.asia@permabond.com