

Features & Benefits

- Adhesion to a wide variety of substrates
- Fast cure at room temperature
- High shear and peel strength
- Good impact strength
- Good chemical & environmental resistance
- Bonds well to unprepared aluminium

Description

PERMABOND® TA4208 BLACK is a 2-part, 1:1 toughened acrylic adhesive. It can be used to bond a wide variety of materials including metals, plastics, composites, ceramics, wood and other substrates. The adhesive can provide excellent shear strength on many substrates with little surface preparation.

Physical Properties of Uncured Adhesive

	TA4208 BLACK A-side	TA4208 BLACK B-side
Chemical composition	Methyl methacrylate	Methyl methacrylate
Colour	Straw	Black
Viscosity @ 25°C	75,000 mPa.s (cP)	118,000 mPa.s (cP)
Specific gravity	1.06	1.0

Typical Curing Properties

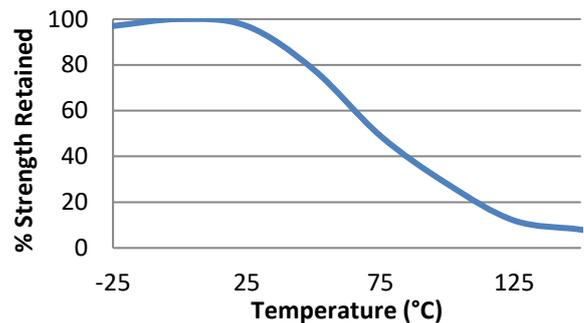
Ratio of use	1 : 1
Maximum gap fill	3 mm (0.12 in)
Pot-life (4g mass) @23°C	4 - 9 minutes
Handling time (0.3 N/mm ² shear strength is achieved) @23°C	10 - 15 minutes
Working strength @23°C	20 - 30 minutes
Full cure @23°C	24 hours

Typical Performance of Cured Adhesive

Shear strength*	Aluminium: 29-33 N/mm ² (4206-4786 psi) Steel: 27-31 N/mm ² (3916- 4496psi) Hot dip galv steel: 16-19 N/mm ² (2321-2756 psi) Electro-plated zinc: 19-23 N/mm ² (2756-3336 psi) ABS: 8 N/mm ² (1160 psi) SF** PVC: 7 N/mm ² (1015 psi) SF** Polycarbonate: 9 N/mm ² (1305 psi) SF** PMMA: 5 N/mm ² (725 psi) SF** Carbon fibre: 13-17 N/mm ² (1885-2466 psi) Epoxy FRP: 7-11 N/mm ² (1015-1595 psi)
Peel strength (aluminium) (ISO4578)	175 N/25mm (36 PIW)
Hardness (ISO868)	75-85 Shore D

*Strength results will vary depending on the level of surface preparation and gap.
SF** = Substrate failure

Hot Strength



"Hot strength" shear strength tests performed on mild steel. Fully cured specimens conditioned to pull temperature for 30 minutes before testing at temperature. TA4208 BLACK 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 -40°C (-40°F) depending on the materials being bonded.

The information given and the recommendations made herein are based on our research and are believed to be accurate but no guarantee of their accuracy is made. In every case we urge and recommend that purchasers before using any product in full-scale production make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purpose under their own operating conditions. THE PRODUCTS DISCLOSED HEREIN ARE SOLD WITHOUT ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED.

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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	2 to 7°C (35 to 45°F)
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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.

Directions for Use

- 1) Surfaces must be clean, dry and grease-free. If using a cleaning solvent, allow 3-4 minutes to fully evaporate before applying adhesive.
- 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 hours for adhesive to fully cure. Accelerated cure times may be achieved by heating.

Video Links

Surface preparation:

<https://youtu.be/8CMOMP7hXjU>



Structural acrylic directions for use:

<https://youtu.be/edvBe4iYNCY>



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