

# Technical data sheet



Product: 3D SERIES

Manufacturer: PERMABOND ENGINEERING ADHESIVES

Product group: KLEBSTOFF

Article group: CYANACRYLAT

Download: 05.02.2025

## PERMABOND® 3D SERIE

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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  
Sindelfingen  
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

### Features & Benefits

- 💧 Single component - no mixing required
- 💧 Low odour – ideal for use in dip baths
- 💧 Solvent-free - to minimise workplace hazard
- 💧 Adds strength and improves printed part durability
- 💧 Moisture cure mechanism
- 💧 No curing equipment required
- 💧 Fills porosities
- 💧 Easy to apply either as “on the spot” coating or in a dip bath
- 💧 For use on simple or complex, small or large parts
- 💧 Clear, colourless appearance
- 💧 Tack-free finish
- 💧 100% reactive, no solvents
- 💧 Parts can be bonded, sanded or painted after infiltration

### Description

**PERMABOND<sup>®</sup> 3D Series** are low odour, low bloom 3D print infiltrants for toughening 3D printed parts. The full range of products allow the ideal features for each application.

Chemical composition	Alkoxyethyl cyanoacrylate
Appearance	Colourless
Specific gravity	1.1
Temperature resistance	-55 to +82°C <i>(-65 to +180°F)</i>

Product	Permabond 3D30	Permabond 3D10	Permabond 3D90
Speed	Ultra-fast Cure	Fast Cure	Delayed Set
Surface	High Gloss Surface	Shiny Surface	Matte
Features	Crystal Clear High Gloss Product Provides Brilliant Colour Vibrancy	Good Penetration Product Provides Brilliant Colour with Shiny Surface	Maximum Penetration Delayed Set Product Provides Maximum Strength and is Ideal for Light Colours
Viscosity	Medium Low 90-110 mPa.s <i>cPs</i>	Low 10-20 mPa.s <i>cPs</i>	Ultra-low 4 mPa.s <i>cPs</i>
Tensile Strength*	10 N/mm <sup>2</sup> <i>(1400 psi)</i>	13 N/mm <sup>2</sup> <i>(1900 psi)</i>	15 N/mm <sup>2</sup> <i>(2200 psi)</i>

\*Tensile Strength of Granules and Binder with No Infiltrant is 400 psi

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## Additional Information

This product is not recommended for use in contact with strong oxidizing materials and polar solvents although will withstand a solvent wash without any bond strength deterioration. Users are reminded that all materials, whether innocuous or not, should be handled in accordance with the principles of good industrial hygiene. Full information can be obtained from the Safety Data Sheet.

## Directions for Use

### Before use:

1. Refer to SDS for safe handling.
2. Wear nitrile gloves, safety glasses and protective clothing.
3. Work in a ventilated area.
4. Prepare surface with a non-stick paper such as freezer paper, PTFE sheet, wax paper etc...
5. Determine which method below best suits your part.

### Drizzle Method – Ideal for small or delicate parts.

- 1) Place part on a protective sheet in a catch pan.
- 2) Apply directly from small size bottle or use spout with larger packaging.
- 3) Either apply to the entire part – turning the part as you drizzle, or apply only to very fragile sections then follow with the Dip Method below.
- 4) Allow the part to cure – times vary with product used and part configuration. Most parts can be handled in less than 15 minutes.

### Dip Method

- 1) Remove excess powder.
- 2) Pour Permabond 3D Infiltrant into a clean metal, glass, polypropylene or polyethylene container. Ensure the quantity is sufficient to allow complete submersion of the part.
- 3) Submerge part slowly so as not to splash the infiltrant.
- 4) Keep the part submerged as long as you see bubbles rising. If there are no bubbles, remove part after 10 seconds.
- 5) Transfer part hand to hand over the bath. This will allow excess to drip back into the container and ensure the part will not stick to your gloves.
- 6) Wipe any excess infiltrant with paper towels. (Wet towels with water prior to disposing.)
- 7) If excess infiltrant pools under the part – wipe it away with paper towels.
- 8) Allow the part to cure – times vary with product used and part configuration. Most parts can be handled in less than 15 minutes.
- 9) Carefully pour any unused infiltrant back into the bottle and cap tightly.

## Storage & Handling

Storage Temperature	2 to 7°C (35 to 45°F)
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Allow adhesive to reach room temperature before opening bottle to prevent condensation inside the bottle which can reduce shelf life.

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

[www.permabond.com](http://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](mailto:info.europe@permabond.com)

[info.americas@permabond.com](mailto:info.americas@permabond.com)

[info.asia@permabond.com](mailto:info.asia@permabond.com)

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