

## Permabond TA4300 Toughened Acrylic Adhesive

Category: Polymer, Adhesive, Thermoset, Acrylic/Cyanoacrylate Adhesive

## **Material Notes:**

PERMABOND® TA4300 is a 2-part, 1:1 toughened acrylic adhesive. Its toughening makes it ideal for bonding dissimilar materials where differential thermal expansion and contraction could be an issue. It cures rapidly at room temperature and has good gap filling properties. It is ideal for use on a variety of metals and gives particularly high bond strength on aluminum surfaces. Features & Benefits: Adhesion to a wide variety of substrates Fast cure at room temperature Easy to apply through static mixer nozzle High shear and peel strength Good impact strength Good chemical resistance Information provided by Permabond.

## Order this product through the following link:

http://www.lookpolymers.com/polymer\_Permabond-TA4300-Toughened-Acrylic-Adhesive.php

| Physical Properties | Metric         | English        | Comments |
|---------------------|----------------|----------------|----------|
| Density             | 1.05 g/cc      | 0.0379 lb/in³  | TA4300A  |
|                     | 1.05 g/cc      | 0.0379 lb/in³  | TA4300B  |
| Storage Temperature | 2.00 - 7.00 °C | 35.6 - 44.6 °F |          |

| Mechanical Properties  | Metric           | English         | Comments          |
|------------------------|------------------|-----------------|-------------------|
| Tensile Strength       | 22.0 - 24.0 MPa  | 3190 - 3480 psi | DIN 53288         |
| Adhesive Bond Strength | 20.0 - 22.0 MPa  | 2900 - 3190 psi | Mild steel, Shear |
| Peel Strength          | 6.00 - 7.20 kN/m | 34.2 - 41.1 pli | ISO 4578          |

| Thermal Properties   | Metric       | English                             | Comments  |
|----------------------|--------------|-------------------------------------|-----------|
| CTE, linear          | 80.0 μm/m-°C | 44.4 μin/in-°F                      | ASTM D696 |
| Thermal Conductivity | 0.100 W/m-K  | 0.694 BTU-in/hr-ft <sup>2</sup> -°F | ASTM C177 |

| Electrical Properties | Metric                          | English                         | Comments  |
|-----------------------|---------------------------------|---------------------------------|-----------|
| Volume Resistivity    | 2.00e+13 ohm-cm                 | 2.00e+13 ohm-cm                 | ASTM D257 |
| Dielectric Constant   | 4.6<br>@Frequency 1.00e+7<br>Hz | 4.6<br>@Frequency 1.00e+7<br>Hz | ASTM D150 |
| Dielectric Strength   | 30.0 - 50.0 kV/mm               | 762 - 1270 kV/in                | ASTM D149 |

| Processing Properties | Metric          | English             | Comments      |
|-----------------------|-----------------|---------------------|---------------|
| Cure Time             | 4.98 - 10.0 min | 0.0830 - 0.167 hour | handling time |
|                       |                 |                     |               |



| Processing Properties | 15 () - 30.0 min<br>Metric | 0 250 - 0.500 hour<br>English | working strength<br>Comments |
|-----------------------|----------------------------|-------------------------------|------------------------------|
|                       | 1440 min                   | 24.0 hour                     | full cure                    |
| Shelf Life            | 12.0 Month                 | 12.0 Month                    |                              |

| Descriptive Properties | Value                                | Comments        |
|------------------------|--------------------------------------|-----------------|
| Appearance             | Brown TA4300B, Thixotropic paste     | Uncured         |
|                        | Off-white TA4300A, Thixotropic paste | Uncured         |
| Maximum Gap Fill (mm)  | 2                                    |                 |
| Strength Retention     | 100% at 0°C                          | Relative to 0°C |
|                        | 15% at 175°C                         | Relative to 0°C |
|                        | 22% at 150°C                         | Relative to 0°C |
|                        | 80% at 100°C                         | Relative to 0°C |
|                        | 96% at 50°C                          | Relative to 0°C |

## **Contact Songhan Plastic Technology Co.,Ltd.**

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