

3M

Scotch-Weld™

Rubber Toughened Instant Adhesive

RT5000B

Technical Data

October, 2015

Product Description

3M™ Scotch-Weld™ Rubber Toughened Instant Adhesives are formulated with a unique elastomer that maximizes impact, vibration, and peel resistance while providing tough flexible bonds. These adhesives are ideally suited for bonding flexible substrates and dissimilar materials.

Specific Features

- 3M™ Scotch-Weld™ Rubber Toughened Instant Adhesive RT5000B is a high viscosity, black, rubber toughened cyanoacrylate. It is formulated to provide a more flexible bond than standard cyanoacrylates and has good gap- filling capabilities

3M™ Scotch-Weld™ Rubber Toughened Instant Adhesives RT5000B

Typical Uncured Physical Properties

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

| | 3M™ Scotch-Weld™ Rubber Toughened Instant Adhesive |
|---|--|
| | RT5000B |
| Color | Black |
| Base | Ethyl |
| Appearance | Liquid |
| Specific Gravity (g/ml) | 1.1 |
| Viscosity (cps) ¹ | 3,000 – 5,000 |
| Time to Handling Strength (sec)* | 20 - 35 |
| Time to full cure (hr) | 24 |

¹ Brookfield viscosity Spindle #4 @ 2.5 rpm; * On EPDM. Time to handling is substrate dependent. The time needed to support a weight of 7.25 lbs

Typical Cured Properties

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

| | 3M™ Scotch-Weld™ Rubber Toughened Instant Adhesive |
|--|--|
| | RT5000B |
| Continuous Temperature Range (°F) | -60 to 180F |
| Gap Fill (in) | 0.008 |
| | Overlap Shear Strength (psi) ¹ |
| Steel ² | 2639 |
| Stainless Steel ² | 3011 |
| Aluminum ² | 2353 |
| ABS | 1064 ³ |
| Polycarbonate | 1281 ³ |
| PVC | 1446 ³ |
| Silicone Elastomer | n/a |

¹ ASTM D-1002 ² Grit blasted ³ Substrate failure

3M™ Scotch-Weld™ Rubber Toughened Instant Adhesives RT3500B

Hot Strength on Steel

| | Percent of Initial Strength |
|----------|-----------------------------|
| Temp (F) | RT5000B |
| 72 | 100 |
| 167 | 81 |
| 212 | 63 |
| 257 | 44 |

Handling Information

Surface Preparation

For optimum strength structural bonds, paint, oxide films, oils, dust, mold release agents, and all other surface contaminants must be completely removed. However, the amount of surface preparation depends on the required bond strength and the environmental aging resistance desired by the user. Typical quick surface preparation would include wiping with a clean solvent (such as isopropyl alcohol*), abrading the surface with a clean fine abrasive, and then wiping again with a clean solvent to remove loose particles.

Directions for Use

1. Ensure that parts are clean, dry, and free from oil and grease.
2. An instant adhesive activator may be required if there are bonding gaps or porous substrate surfaces, if substrates are low surface energy plastics (e.g., polyethylene, polypropylene) or if substrates have acidic surfaces (e.g., paper, leather).
3. Bond speed is typically very fast so ensure that parts are properly aligned before dispensing.
4. Product is normally hand applied from the bottle. Apply sparingly to one surface and press parts firmly together until handling strength is achieved. As a general rule, as little cyanoacrylate as possible should be used. Over application will result in slower cure speed and lower bond strength.

Cured Bond Characteristics

1. Full bond strength will typically be achieved within a 24 hour cure time.
2. Low humidity or low temperature conditions will slow down the cure rate.
3. After curing, 3M™ Scotch-Weld™ Rubber Toughened Instant Adhesive bonds are suitable for use at temperatures up to 180F (82°C) continuously, intermittently up to 250°F (121°C).
4. Cyanoacrylate bond resistance to most oils and solvents is excellent. Long term humidity, moisture, or water immersion may affect the strength of a cured cyanoacrylate bond depending on the substrates and the bond gap. Testing is recommended to evaluate the effect.

***Note:** When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer's precautions and directions for use.

3M™ Scotch-Weld™ Rubber Toughened Instant Adhesives RT5000B

| | |
|---|--|
| Storage | For short term storage (<30 days), keep adhesive in a cool (60°F to 80°F [16°C to 27°C]), dry place out of direct sunlight. Keep containers tightly covered and free of moisture. Refrigeration (40°F [4°C]) gives optimum long term storage stability. |
| Shelf Life | 3M™ Scotch-Weld™ Rubber Toughened Instant Adhesives can be expected to have a shelf life of 6 months from the date of shipment from 3M when stored under refrigerated conditions. |
| Precautionary Information | Refer to Product Label and Material Safety Data Sheet for health and safety information before using this product. For additional health and safety information, call 1-800-364-3577 or (651) 737-6501. |
| Technical Information | The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed. |
| Product Use | Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application. |
| Warranty, Limited Remedy, and Disclaimer | Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price. |
| Limitation of Liability | Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability. |

ISO 9001:2008

This product was manufactured under a quality system registered to ISO 9001:2008 standards.