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## 3M™ Scotch-Weld™ Epoxy Adhesive 2216 B/A Translucent



Long worklife adhesive. Flexible epoxy. Translucent version of 2216 B/A Gray Adhesive.

# 3M

## Scotch-Weld™

### Epoxy Adhesive

#### 2216 B/A

#### Technical Data

#### Product Description

3M™ Scotch-Weld™ Epoxy Adhesive 2216 B/A is a flexible, two-part, room temperature curing epoxy with high peel and shear strength. Scotch-Weld epoxy adhesive 2216 B/A is identical to 3M™ Scotch-Weld™ Epoxy Adhesive EC-2216 B/A in chemical composition. Scotch-Weld epoxy adhesive EC-2216 B/A has been labeled, packaged, tested, and certified for aircraft and aerospace applications. Scotch-Weld epoxy adhesive 2216 B/A may be used for aircraft and aerospace applications if proper Certificates of Test have been issued and material meets all aircraft manufacturer's specification requirements.

#### 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.

Product	3M™ Scotch-Weld™ Epoxy Adhesive					
	2216 B/A Gray		2216 B/A Tan NS		2216 B/A Translucent	
	Base	Accelerator	Base	Accelerator	Base	Accelerator
<b>Color:</b>	White	Gray	White	Tan	Translucent	Amber
<b>Base:</b>	Modified Epoxy	Modified Amine	Modified Epoxy	Modified Amine	Modified Epoxy	Modified Amine
<b>Net Wt.: (lb/gal)</b>	11.1-11.6	10.5-11.0	11.1-11.6	10.5-11.0	9.4-9.8	8.0-8.5
<b>Viscosity: (cps) (Approx.) Brookfield RVF #7 sp. @ 20 rpm</b>	75,000 - 150,000	40,000 - 80,000	75,000 - 150,000	550,000 - 900,000	11,000 - 15,000	5,000 - 9,000
<b>Mix Ratio: (by weight)</b>	5 parts	7 parts	5 parts	7 parts	1 part	1 part
<b>Mix Ratio: (by volume)</b>	2 parts	3 parts	2 parts	3 parts	1 part	1 part
<b>Work Life: 100 g Mass @ 75°F (24°C)</b>	90 minutes	90 minutes	120 minutes	120 minutes	120 minutes	120 minutes

#### Features

- Excellent for bonding many metals, woods, plastics, rubbers, and masonry products.
- Base and Accelerator are contrasting colors.
- Good retention of strength after environmental aging.
- Resistant to extreme shock, vibration, and flexing.
- Excellent for cryogenic bonding applications.
- The tan NS Adhesive is non-sag for greater bondline control.
- The translucent can be injected.
- Meets DOD-A-82720.

# Scotch-Weld™ Epoxy Adhesive 2216 B/A

## Typical Cured Physical Properties

Product	3M™ Scotch-Weld™ Epoxy Adhesive		
	2216 Gray	2216 Tan NS	2216 Translucent
Color	Gray	Tan	Translucent
Shore D Hardness ASTM D 2240	50-65	65-70	35-50
Time to Handling Strength	8-12 hrs.	8-12 hrs.	12-16 hrs.

## Typical Cured Electrical Properties

Product	3M™ Scotch-Weld™ Epoxy Adhesive	
	2216 Gray	2216 Translucent
Arc Resistance	130 seconds	
Dielectric Strength	408 volts/mil	630 volts/mil
Dielectric Constant @ 73°F (23°C)	5.51–Measured @ 1.00 KHz	6.3 @ 1 KHz
Dielectric Constant @ 140°F (60°C)	14.17–Measured @ 1.00 KHz	—
Dissipation Factor 73°F (23°C)	0.112 Measured @ 1.00 KHz	0.119 @ 1 KHz
Dissipation Factor 140°F (60°C)	0.422–Measured @ 1.00 KHz	—
Surface Resistivity @ 73°F (23°C)	5.5 x 10 <sup>16</sup> ohm–@ 500 volts DC	—
Volume Resistivity @ 73°F (23°C)	1.9 x 10 <sup>12</sup> ohm-cm–@ 500 volts DC	3.0 x 10 <sup>12</sup> ohm-cm @ 500 volts DC

## Typical Cured Thermal Properties

Product	3M™ Scotch-Weld™ Epoxy Adhesive	
	2216 Gray	2216 Translucent
Thermal Conductivity	0.228 Btu-ft/ft <sup>2</sup> h °F	0.114 Btu-ft/ft <sup>2</sup> h °F
Coefficient of Thermal Expansion	102 x 10 <sup>-6</sup> in/in/°C between 0-40°C 134 x 10 <sup>-6</sup> in/in/°C between 40-80°C	81 x 10 <sup>-6</sup> in/in/°C between -50-0°C 207 x 10 <sup>-6</sup> in/in/°C between 60-150°C

## Typical Cured Outgassing Properties

Outgassing Data  
NASA 1124 Revision 4

	% TML	% CVCM	% Wtr
3M™ Scotch-Weld™ Epoxy Adhesive 2216 Gray	.77	.04	.23

Cured in air for 7 days @ 77°F (25°C).

## Handling/Curing Information

### Directions for Use

1. For high 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 directly depends on the required bond strength and the environmental aging resistance desired by user. For suggested surface preparations of common substrates, see the following section on surface preparation.
2. These products consist of two parts. Mix thoroughly by weight or volume in the proportions specified on the product label and in the uncured properties section. Mix approximately 15 seconds after a uniform color is obtained.

# Scotch-Weld™

## Epoxy Adhesive

2216 B/A

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### Precautionary Information

Refer to Product Label and Material Safety Data Sheet for Health and Safety Information before using this product.

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### Product Use

All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

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### Warranty and Limited Remedy

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**ISO 9001:2000**

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001:2000 standards.



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