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## 3M™ Scotch-Weld™ Epoxy Adhesive DP100 Clear

A very clear, fast setting, room temperature curing, two-part adhesive for bonding a variety of materials, such as many metals, ceramics, wood and many plastics.

### Additional Information

This adhesive has a 1:1 mix ratio, a 3-5 minute work life, and develops handling strength in approximately 15 minutes. Its low viscosity allows easy pouring and is ideal for filleting and potting. Packaged in convenient Duo-Pak cartridges designed for use in the EPX Plus applicator system. It meets corrosion requirements of MIL-S-46163. NOTE: Make-To-Order with a lead time of 30-45 days.



# Scotch-Weld™

## Epoxy Adhesives

DP-100 Clear • DP-100 NS Translucent

### Technical Data

#### Product Description

3M™ Scotch-Weld™ Epoxy Adhesives DP-100 and DP-100NS are two-part adhesives offering fast cure and machinability.

Available in larger containers like 3M™ Scotch-Weld™ Epoxy Adhesives 100 B/A or 100 NS B/A.

#### Features

- Easy mixing
- High Flow (Scotch-Weld DP-100 Clear)
- Non-Sag (Scotch-Weld DP-100 NS Translucent)
- Fast Cure
- Scotch-Weld DP-100 meets UL 94 HB

#### 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		Scotch-Weld DP-100 Clear Adhesive	Scotch-Weld DP-100 NS Translucent Adhesive
<b>Viscosity<sup>1</sup></b> @ 73°F (23°C)	Base Accelerator	8,000-15,000 cps 9,000-16,000 cps	90,000-150,000 cps 50,000-85,000 cps
<b>Base Resin</b>		Epoxy	Epoxy
<b>Color</b>		Clear/Lt. Amber	Translucent
<b>Net Weight (Lbs./Gallon)</b>	Base Accelerator	9.5-9.9 9.2-9.6	9.6-10.0 9.2-9.6
<b>Mix Ratio (B:A)</b>	Volume Weight	1 : 1 1 : 0.98	1 : 1 1 : 0.96
<b>Worklife<sup>2</sup></b> @ 73°F (23°C)	10 g mixed	5 minutes	5 minutes (Gel time <sup>3</sup> )

1. Viscosity determined using 3M test method C-1d. Procedure involves Brookfield RVF, #6 spindle, 20 rpm and 80°F (27°F). (100 Clear) and #6 spindle, 4 rpm and 80°F (27°F) (100 NS). Measurement taken after 1 minute.

2. Worklife determined using 3M test method C-548. Procedure involves periodically measuring a 10 gram mixed mass for spreading and wetting properties. This time approximates the usable worklife in an EPX applicator nozzle.

3. Gel time determined using 3M test method C-554. Procedure involves periodically checking a 10 gram mixed mass for flowing properties.

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### 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.

Product	Scotch-Weld DP-100 Clear Adhesive	Scotch-Weld DP-100 NS Translucent Adhesive
<b>Physical:</b>		
<b>Color</b>	Translucent	Translucent
<b>Shore D Hardness (ASTM D 2240)</b>	80-85	80-85
<b>Time to Handling Strength<sup>4</sup></b>	15-20 min. @ 23°C (73°F)	15-20 min. @ 23°C (73°F)
<b>Cure Time<sup>5</sup></b>	24-48 hours @ 23°C (73°F)	24-48 hours @ 23°C (73°F)

<b>Thermal:</b>		
<b>Wt. loss by Thermal Gravimetric Analysis<sup>6</sup></b>	5% @ 307°C (585°F)	
<b>Glass Transition Temp<sup>7</sup></b>	33°C (91°F)	34°C (86°F)
<b>Coefficient of Thermal Expansion (in./in./°C)<sup>8</sup></b>	60 x 10 <sup>-6</sup> (-40°C to +20°C) (-38°F to +68°F) 209 x 10 <sup>-6</sup> (60°C to 120°C) (+140°F to +248°F)	29 x 10 <sup>-6</sup> (-50°C to +30°C) (-56°F to +86°F) 149 x 10 <sup>-6</sup> (50°C to 110°C) (+122°F to +230°F)
<b>Thermal Conductivity<sup>9</sup> (btu-ft./sq. ft.-hr. °F)</b>	0.107 @ 46°C (115°F)	0.106 @ 45°C (113°F)

<b>Electrical:</b>		
<b>Dielectric Strength (ASTM D 149)</b>	860 volts/mil	1100 volts/mil
<b>Volume Resistivity (ASTM D 257)</b>	3.5 x 10 <sup>12</sup> ohm-cm	2.2 x 10 <sup>14</sup> ohm-cm

4. Handling strength determined per 3M test method C-3179. Time to handling strength is the time required to achieve 50 psi OLS strength to aluminum.
5. The cure time is defined as the time required for the adhesive to achieve a minimum of 80% of its ultimate OLS on aluminum.
6. Weight loss by Thermal Gravimetric Analysis reported as that temperature at which 5% weight loss occurs by TGA in air at 5°C (41°F) rise per minute per ASTM 1131-86 Test Procedures.
7. Glass transition temperature (Tg) determined using Perkin Elmer (DSC) Analyzer with a heating rate of 20°C (68°F) per minute. Second heat values given.
8. Coefficient of thermal expansion determined using DuPont (TMA) using a heating rate of 10°C (50°F) per minute. Second heat values given.
9. Thermal conductivity determined using ASTM C177 and C-matic Instrument with 2 in. diameter samples.

# Scotch-Weld™

## Epoxy Adhesives

DP-100 Clear • DP-100 NS Translucent

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**Storage and Shelf Life**      **Storage:** Store products at 60-80°F (16-27°C) for maximum storage life. Rotate on “first in-first out” basis.

**Shelf Life:** When stored as recommended in original unopened container, this product has a shelf life of 15 months.

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**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.

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**For Additional Information**      To request additional product information or to arrange for sales assistance, call toll free 1-800-362-3550 or visit [www.3M.com/adhesives](http://www.3M.com/adhesives). Address correspondence to: 3M Engineered Adhesives Division, 3M Center, Building 220-7E-01, St. Paul, MN 55144-1000. Our fax number is 651-733-9175. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

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This Engineered Adhesives Division product was manufactured under a 3M quality system registered to ISO 9002 standards.

**3M**  
Engineered Adhesives Division



## Material Safety Data Sheet

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### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** 3M(TM) Scotch-Weld(TM) Epoxy Adhesive DP-100 Clear (Part B)  
**MANUFACTURER:** 3M  
**DIVISION:** Industrial Adhesives and Tapes

**Document Group:** 10-3337-2

**Product Use:**

Specific Use: base for 2 part epoxy adhesive

### SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
EPOXY RESIN	25068-38-6	100

### SECTION 3: HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

**Specific Physical Form:** Viscous

**Odor, Color, Grade:** light straw colored, epoxy odor

**General Physical Form:** Liquid

**Immediate health, physical, and environmental hazards:** May cause allergic skin reaction.

#### 3.2 POTENTIAL HEALTH EFFECTS

**Eye Contact:**

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Vapors released during curing may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Dust created by cutting, grinding, sanding, or machining may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:**

Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Prolonged or repeated exposure may cause:

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

**Inhalation:**

Vapors released during curing may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Ingestion:**

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

## SECTION 4: FIRST AID MEASURES

### 4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

**Eye Contact:** Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

**Skin Contact:** Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

**Inhalation:** If signs/symptoms develop, remove person to fresh air. If signs/symptoms persist, get medical attention.

**If Swallowed:** Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

## SECTION 5: FIRE FIGHTING MEASURES

### 5.1 FLAMMABLE PROPERTIES

**Autoignition temperature**

*No Data Available*

**Flash Point**

249 °C [*Test Method: Pensky-Martens Closed Cup*]

**Flammable Limits - LEL**

*Not Applicable*

**8.2.2 Skin Protection**

Avoid skin contact. Do not cure up a mass of combined material larger than 50 grams to prevent the possibility of exotherm.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Polyethylene/Ethylene Vinyl Alcohol.

**8.2.3 Respiratory Protection**

Avoid breathing of dust created by cutting, sanding, grinding or machining.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with P100 particulate filters, Half facepiece or fullface air-purifying respirator with P95 particulate filters, Half facepiece or fullface air-purifying respirator with N95 particulate filters.

Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

**8.2.4 Prevention of Swallowing**

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

**8.3 EXPOSURE GUIDELINES**

None Established

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Specific Physical Form:</b>	Viscous
<b>Odor, Color, Grade:</b>	light straw colored, epoxy odor
<b>General Physical Form:</b>	Liquid
<b>Autoignition temperature</b>	<i>No Data Available</i>
<b>Flash Point</b>	249 °C [ <i>Test Method:</i> Pensky-Martens Closed Cup]
<b>Flammable Limits - LEL</b>	<i>Not Applicable</i>
<b>Flammable Limits - UEL</b>	<i>Not Applicable</i>
<b>Boiling point</b>	>=249 °C
<b>Density</b>	1.17 g/ml
<b>Vapor Density</b>	<i>Not Applicable</i>
<b>Vapor Pressure</b>	<=0.03 mmHg [@ 70 °C]
<b>Specific Gravity</b>	1.17
<b>pH</b>	<i>Not Applicable</i>
<b>Melting point</b>	<i>Not Applicable</i>
<b>Solubility in Water</b>	Nil
<b>Evaporation rate</b>	<i>Not Applicable</i>
<b>Volatile Organic Compounds</b>	0 g/l
<b>VOC Less H2O &amp; Exempt Solvents</b>	0 g/l
<b>Viscosity</b>	10000 - 30000 centipoise [@ 73.400000000 °F] [ <i>Details:</i> MITS data]

**SECTION 10: STABILITY AND REACTIVITY**

**Stability:** Stable.

**Materials and Conditions to Avoid:** Strong acids; Strong oxidizing agents; Heat is generated during cure. Do not cure a mass larger