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3M™ Scotch-Weld™ Epoxy Adhesive DP110 Gray Duo-Pak, 1.7 fl oz, 12 per case



Gray, fast setting, flexible, two-part adhesive with a 1:1 mix ratio for bonding many materials, such as metals, ceramics and many plastics. 9 minute worklife with handling strength in 20 minutes.

Unlike many other fast cure two-part epoxies, this adhesive has excellent peel strength and shock and impact resistance. NOTE: Make-To-Order with a lead time of 30-45 days.

Products

Product / 3M Id / UPC

3M™ Scotch-Weld™ Epoxy Adhesive DP110 Gray Duo-Pak, 1.7 fl oz, 12 per case

3M Id : 62-3533-1434-7

GTIN(UPC/EAN) : 0 00 21200 82470 8

3M

Scotch-Weld™

Epoxy Adhesive

DP110 Translucent and Gray

Technical Data

Product Description 3M™ Scotch-Weld™ Epoxy Adhesive DP110 Translucent and Gray are two-part epoxy adhesives which combine a fast cure with flexibility.

- Features**
- Controlled flow
 - 20 minute handling strength
 - Duo-Pak cartridge dispensing system
 - Good adhesion to many plastics and metals

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 Epoxy Adhesive DP110 Translucent	Scotch-Weld Epoxy Adhesive DP110 Gray
Viscosity @ 72°F (23°C), 73°F (24°C) (CPS)	Base Accelerator	30,000 - 70,000 30,000 - 70,000	40,000 - 90,000 40,000 - 90,000
Base Resin	Base Accelerator	Modified Epoxy Amine	Modified Epoxy Amine
Color	Base Accelerator	Translucent White Light Yellow	White Black
Net Weight (Lbs./Gallon)	Base Accelerator	9.1 - 9.4 9.0 - 9.3	9.1 - 9.4 9.0 - 9.3
Mix Ratio B : A	Volume Weight	100 : 100 100 : 99	100 : 100 100 : 99
Worklife @ 73°F (24°C) (minutes)		8 - 13	8 - 13

Typical Cured 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 Epoxy Adhesive DP110 Translucent	Scotch-Weld Epoxy Adhesive DP110 Gray
Color	Yellow Translucent	Gray
Shore D Hardness (approx.)	40	45
Elongation (approx.)	40%	40%

Scotch-Weld™

Epoxy Adhesives

DP110 Translucent and Gray

Typical Cured Thermal 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 DP110 Translucent	3M™ Scotch-Weld™ Epoxy Adhesive DP110 Gray
Thermal Conductivity BTU/Hr/Ft ² /°F/Ft.	.106 @ 113°F (45°C)	.104 @ 113°F (45°C)
Thermal Coefficient of Expansion -58°F (-50°C) - 32°F (0°C) -58°F (-50°C) - 166°F (110°C)	80 x 10 ⁻⁶ 200 x 10 ⁻⁶	73 x 10 ⁻⁶ 165 x 10 ⁻⁶
Glass Transition Temp.	55°F (13°C)	61°F (16°C)

Typical Cured Electrical 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 Epoxy Adhesive DP110 Translucent	Scotch-Weld Epoxy Adhesive DP110 Gray
Dielectric Strength (volts/mil)	520	470
Volume Resistivity (ohms - cm)	4.5 x 10 ¹⁰	6.9 x 10 ¹⁰

Typical Adhesive Performance Characteristics

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

The following product performance data was obtained in the 3M laboratory under the conditions specified. The following data show typical results obtained with Scotch-Weld epoxy adhesive DP110 Translucent and Gray when applied to properly prepared substrates and cured for 48 hours at 73°F (23°C) under 2 psi pressure and tested according to the specifications indicated.

Note: All data developed after a 48 hour cure @ 75°F (24°C) under 2 psi pressure unless noted otherwise.

A. Aluminum Overlap Shear

Overlap shear strength was measured on FPL etched 1 in. wide by 1/2 in. overlap specimens. The bonds were made from 2 panels of 4 in. x 7 in. x .063 in., 2024 T3 clad aluminum bonded together and cut into 1 in. wide specimens. The separation rate of the testing jaws was .1 in./minute. Tests similar to ASTM D-1002.

Test Temp	Scotch-Weld Epoxy Adhesive DP110 Translucent	Scotch-Weld Epoxy Adhesive DP110 Gray
-67°F (-55°C)	2500 psi	2700 psi
75°F (24°C)	2500 psi	3500 psi
160°F (71°C)	270 psi	270 psi
180°F (82°C)	200 psi	250 psi

Scotch-Weld™

Epoxy Adhesives

DP110 Translucent and Gray

Storage	Store products at 60-80°F (16-27°C) for maximum storage life.
Shelf Life	3M™ Scotch-Weld™ Epoxy Adhesive DP110 Translucent and Gray have a shelf life of 15 months in their unopened containers. Duo-pak cartridges have a shelf life of two years in their unopened bulk containers.
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.
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 . Address correspondence to: 3M Industrial Adhesives and Tapes Division, Building 21-1W-10, 900 Bush Avenue, St. Paul, MN 55144-1000. Our fax number is 651-778-4244. 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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Industrial Business
Industrial Adhesives and Tapes 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-110, Gray (Part B) or 3M(TM) Scotch-Weld(TM) Epoxy Adhesive 110 B/A, Gray (Part B)
MANUFACTURER: 3M
DIVISION: Industrial Adhesives and Tapes Division

Document Group: 11-3320-6

Product Use:

Specific Use: Base of 2-Part Epoxy Adhesive
Intended Use: Industrial use

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
Epoxy Resin	25068-38-6	60 - 100
Methacrylate/Butadiene/Styrene Polymer	25053-09-2	10 - 30
Hydrogenated Terphenyl	61788-32-7	5 - 10
Hydrogenated Polyphenyls	68956-74-1	< 1.5

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Paste

Odor, Color, Grade: White, very slight odor.

General Physical Form: Liquid

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

3.2 POTENTIAL HEALTH EFFECTS

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	<i>No Data Available</i>
Flash Point	≥ 480 °F [<i>Test Method: Closed Cup</i>]
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>

5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Water may be used to blanket the fire. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: No unusual fire or explosion hazards are anticipated.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Contain spill. Collect as much of the spilled material as possible. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS. Collect the resulting residue containing solution. Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Avoid eye contact. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid skin contact. Avoid breathing of vapors. Keep out of the reach of children. Avoid breathing of dust created by cutting, sanding, grinding or machining. For industrial or professional use only. Avoid contact with oxidizing agents. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment.

7.2 STORAGE

Store away from heat. Store out of direct sunlight. Keep container in well-ventilated area. Keep container tightly closed. Store away from oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Provide appropriate local exhaust for cutting, grinding, sanding or machining. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control dust, fume, or airborne particles. If ventilation is not adequate, use respiratory protection equipment.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

The following eye protection(s) are recommended: Safety Glasses with side shields, Indirect Vented Goggles.

8.2.2 Skin Protection

Avoid skin contact.

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: Neoprene, Nitrile Rubber.

8.2.3 Respiratory Protection

Avoid breathing of vapors. 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 organic vapor cartridges and P95 particulate prefilters, Half facepiece or fullface air-purifying respirator with organic vapor cartridges and N95 particulate prefilters, Half facepiece or fullface air-purifying respirator with organic vapor cartridges and P100 particulate prefilters. 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

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
Hydrogenated Terphenyl	ACGIH	TWA	0.5 ppm	
Hydrogenated Terphenyl	OSHA	TWA	0.5 ppm	Table Z-1A

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:

Paste

Odor, Color, Grade:

White, very slight odor.

General Physical Form:

Liquid

Autoignition temperature

No Data Available

Flash Point	>=480 °F [<i>Test Method:</i> Closed Cup]
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>
Boiling point	>=260 °C
Density	1.14 g/ml
Vapor Density	<i>Not Applicable</i>
Vapor Pressure	<i>Not Applicable</i>
Specific Gravity	1.14 [<i>Ref Std:</i> WATER=1]
pH	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Solubility in Water	Nil
Evaporation rate	<i>Not Applicable</i>
Hazardous Air Pollutants	0 % weight
Volatile Organic Compounds	<i>Not Applicable</i>
Percent volatile	0.0 % weight
VOC Less H2O & Exempt Solvents	<i>Not Applicable</i>
Viscosity	45000 - 65000 centipoise [@ 73.4 °F]

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Strong oxidizing agents

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.