English-US

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Technical Data Sheet

3M™ Scotch-Weld™ Epoxy Adhesive DP100 LH

Product Description

3M™ Scotch-Weld™ Epoxy Adhesive DP100LH is a two-part adhesive offering fast cure and machinability. Laboratory testing has shown that 3M™ Scotch-Weld™ Epoxy Adhesive DP100LH's curing and adhesive performance to be comparable to 3M™ Scotch-Weld™ Epoxy Adhesive DP100 Clear.

Product Features

• 4 minute worklife • High shear and peel strength • Slightly flexible • 1:1 mix ratio • Recognized as meeting UL 94 HB • Low halogen content

Technical Information Note

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

Typical Uncured Physical Properties

Attribute Name	Test Method	Temperature	Value
Base Viscosity	3M C1d	27 °C (80 °F)	8,000 — 15,000 cP [1]
Accelerator Viscosity	3M C1d	27 °C (80 °F)	9,000 — 16,000 cP [1]
Color			Clear/L.t. Amber [2]

[1] Procedure involves Brookfield RVF, #6 spindle, 20 rpm. Measurement taken after 1 minute.

[2] Colors may vary from nearly white to yellow/amber. Adhesive performance is not affected by color variation.

Typical Mixed Physical Properties

Temperature: 23 °C (73 °F)

Attribute Name	Test Method	Value
Set Time (min)		15 — 20 min [1]
Worklife, 10g mixed	3M C548	5 min [2]

[1] Minimum time required to achieve 0.3 MPa (50 psi) of overlap shear strength. Cure times are approximate and depend on adhesive temperature.

[2] 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.

Typical Cured Characteristics

Temperature: 23 °C (73 °F)

Attribute Name	Test Method	Value
Shore D Hardness	ASTM D2240	82

Electrical and Thermal Properties

Test Condition: Mid-Point

Attribute Name	Value
Glass Transition Temperature (Tg)	33 °C (91 °F) [1]

[1] Glass Transition Temperature (Tg) determined using DSC Analyzer with a heating rate of 20 °C (68 °F) per minute. Second heat values given.

Handling/Application Information

Directions for Use

Mixing and Applying
For Duo-Pak Cartridges - 400 ml
Directions for Use: While holding cartridge in an upright position, remove insert from Duo-Pak cartridge by unscrewing plastic nut. Detach metal removal disc from insert to free plastic nut for nozzle attachment. Clear orifices if necessary. Attach mixing nozzle and secure with plastic nut. Place cartridge into EPX Applicator. Dispense a small quantity of adhesive to assure both components are dispensing equally. Apply adhesive to clean surfaces, join parts, secure until set up (20 minutes @ 75°F [24°C]). Leave nozzle attached to store. Replace nozzle after storage.

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 directly depends on the required bond strength and the environmental aging resistance desired by the user.

The following cleaning methods are suggested for common surfaces:

Steel:
1. Wipe free of dust with oil-free solvent such as acetone or isopropyl alcohol.[1]
2. Sandblast or abrade using clean fine grit abrasives.
3. Wipe again with solvent to remove loose particles.
4. If a primer is used, it should be applied within 4 hours after surface preparation.

Aluminum:
1. Acid Etch: Place panels in the following solution for 10 minutes at 150°F ± 5°F (66°C ± 2°C).
Sodium Dichromate 4.1 - 4.9 oz./gallon
Sulfuric Acid, 66°C 38.5 - 41.5 oz./gallon 2024-T3 aluminum (dissolved) 0.2 oz./gallon minimum Tap Water as needed to balance
2. Rinse: Rinse panels in clear running tap water.
3. Dry: Air dry 15 minutes and force dry 10 minutes at 150°F ± 10°F (66°C ± 5°C).
4. If primer is to be used, it should be applied within 4 hours after surface preparation.
5. Option 2: Degrease with an industrial solvent such as MEK[1]; abrade with ScotchBrite™ 7447 abrasive (or sandpaper of approximately 180 grit) and wipe again with solvent[1].

Plastics/Rubber:
1. Wipe with isopropyl alcohol.[1]
2. Abrade using fine grit abrasives.
3. Wipe with isopropyl alcohol.[1]
[1]Note: When using solvents, extinguish all ignition sources and follow the manufacturer’s precautions and directions for use.

Application Equipment

For small or intermittent applications the 3M™ Scotch-Weld™ EPX™ applicator is a convenient method of application. For larger applications these adhesives may be applied by use of flow equipment. Two-part meter/mixing/dispensing equipment is available for intermittent or production line use. These systems may be desirable because of their variable shot size and flow rate characteristics and are adaptable to many applications.

Cure Conditions

2hrs 70°C + 24h RT

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) in the original, unopened packaging, out of direct sunlight. For best performance, use this product within 18 months from date of manufacture.

Certificate of Analysis (COA)

The 3M Certificate of Analysis (COA) contains the 3M specifications and test methods for the products performance limits that the product will be supplied against. The 3M product is supplied to 3M COA test specifications and the COA test methods. Contact your local 3M representative for this product's COA.

Automotive Disclaimer

Select Automotive Applications:
This product is an industrial product and has not been designed or tested for use in certain automotive applications, such as automotive electric powertrain battery or high voltage applications, which may require the product to be manufactured in a IATF certified facility, meet a Ppk of 1.33 for all properties, undergo an automotive production part approval process (PPAP), or fully adhere to automotive design or quality system requirements (e.g., IATF 16949 or VDA 6.3). Customer assumes all responsibility and risk if customer chooses to use this product in these applications.

Information

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Safety Data Sheet: Consult Safety Data Sheet before use.

3M™ Industrial Adhesives and Tapes Division
3M Center, St. Paul, MN 55144-1000
3M.com/iatd