Scotch-Weld™ Epoxy Adhesive DP760

Product Data Sheet

June 2016
Supersedes: August 2013

Product Description

3M™ Scotch-Weld™ DP760 epoxy adhesive is a non-sag, two-part room temperature curing adhesive designed for use when high temperature resistance is required.

Key Features

- Epoxy adhesive
- 2:1 mix ratio
- Non sagging paste for an ease of use
- High temperature resistance

Physical Properties

	BASE	ACCELERATOR
Base Resin	Modified Epoxy	Modified Amine
Colour	White	White
Density(1)	1.24	0.84
Viscosity	Non sagging Paste	Non sagging Paste
Mix Ratio **- by volume** **- by weight**	 100 parts 100 parts	 50 parts 32 parts
Work Life(2) **5g** **10g**	 90 min 70 min	

(1) Density measured using pycnometer at 23°C.

(2) Maximum time that adhesive can remain useable after a mix of 5 or 10g at 23°C.

Performance Characteristics

Overlap Shear (MPa)[3]

Aluminium 2024T3 FPL Etched	Cycle 1 7 days at 23°C	Cycle 2 120 min at 65°C
- 55 ± 3 °C	-	21.7 (CF)
23 ± 2 °C	32 (CF)	31.5 (CF)
120 ± 2 °C	14.8 (CF)	14.5 (CF)
150 ± 2 °C	9.7 (CF)	8.7 (CF)

(3) Overlap shear values measured using EN-2243-1; adhesive allowed to cure for 7 days at 23°C or 120 minutes at 65 °C; 12.5 mm overlap; 90-150 µm bond line thickness; samples pulled at 2.5 mm/min s; all samples are FPL Etched Aluminium 2024T3 1.6 mm thick

Failure modes:
AF: adhesive failure CF: cohesive failure SF: substrate failure

Floating Roller Peel (N/ 25 mm width)[4]

Aluminium 2024T3 FPL Etched	DP 760
23°C	110 (CF)

4) Floating roller peel values measured using EN 2243-2; adhesives allowed to cure for 120 minutes at 65°C; 25 mm wide samples; 90-150 µm bond line thickness; samples pulled at 150 mm/min; aluminium surfaces etched; substrates used were 1.6 thick and 0.5 mm thick aluminium.

Failure modes:
AF: adhesive failure CF: cohesive failure SF: substrate failure

Directions For Use

1. To obtain the highest strength structural bonds, paint, oxide films, oils, dust, mould release agents, and all other surface contaminants must be removed completely.
   The amount of surface preparation depends on the required bond strength and environmental aging resistance desired by user. For suggested surface preparations on common substrates, see the section on surface preparation.

2. Mixing
   For Duo-Pak Cartridges
   Store cartridges with cap end up allowing any air bubbles to rise towards the tip. To use, simply insert the cartridge into the EPX applicator and start the plunger into the cylinders using light pressure on the trigger. Then remove the cap and expel a small amount of adhesive to ensure material flows freely from both sides of cartridge. For automatic mixing, attach an EPX mixing nozzle to the cartridge and begin dispensing the adhesive. For hand mixing, expel the desired amount of adhesive and mix thoroughly. Mix approximately 15 seconds after obtaining a uniform colour

Directions For Use

3. Apply adhesive and join surfaces within the open time listed for the specific product. Larger quantities and/or higher temperatures will reduce this working time.

4. Allow adhesive to cure at 16°C or above until completely firm. Applying heat up to 66°C will increase cure speed.

5. Keep parts from moving during cure. Apply contact pressure or fixture in place if necessary. The optimum bond line thickness ranges from 100 to 500 µm; shear strength will be maximized with thinner bond lines, while peel strength reaches a maximum with thicker bond lines.

6. Excess uncured adhesive can be cleaned up with ketone type solvents.*****

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

Surface Preparation

The following cleaning methods are suggested for common surfaces:

Steel & Aluminium:
1. Wipe free of dust and dirt with pure solvent such as acetone or isopropyl alcohol.*****
2. Sandblast or abrade using clean fine grit abrasives.
3. Wipe again with clean solvent to remove loose particles.*****
4. When using a primer, apply within 4 hours after surface preparation.
   Where humid environments are likely to be encountered by metallic substrates, we recommend additional priming with 3M™ Scotch-Weld™ 3901. Alternatively, chemical conversion coating techniques combined with priming can offer the best durability.

Plastics/Rubbers:
1. Wipe with isopropyl alcohol.*****
2. Abrade using fine grit abrasives.
3. Wipe with isopropyl alcohol.*****

Glass:
1. Solvent wipe surface using acetone or MEK.*****
2. Apply a thin coating of a silane adhesion promoter to the glass surfaces to be bonded and allow to dry completely before bonding.

Storage & Shelf Life

Store temperature at 4 °C max and product in original packaging will ensure the shelf life. Do not freeze. Allow product to reach room temperature prior to use.

The product can be stored up to 24 months after production

Note: The shelf life may be shortened if the original packaging is not properly sealed or stored in an environment with high temperatures or humidity.

Precautionary Information	Refer to product label and Material Safety Data Sheet for health and safety information before using the product. For information please contact your local 3M Office. www.3M.com
For Additional Information	To request additional product information or to arrange for sales assistance, call: 0870 60 800 50 Address correspondence to: 3M United Kingdom PLC 4th Floor, Building 8, Exchange Quay, Salford Quay, Manchester, M5 3EH
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