



Scotch-Weld™

DP804 Clear Acrylic Adhesive

Preliminary Product Data Sheet

Date February 2010

Supersedes: New

Product Description

3M Scotch-Weld DP804 Clear Acrylic Adhesive is a two-part, 1:1 mix ratio, structural adhesive with significantly less odour than most acrylic adhesives.

DP-804 has excellent shear and peel strength along with good impact resistance and durability. DP804 is specifically designed to quickly bond clear plastics (PMMA, polycarbonate) and also offers good adhesion on glass and metals. DP804 offers high transparency when mixed and offers excellent long term resistance to UV.

Key Features

- 1:1 mix ratio
- 3 minute work life
- 4 minute time to handling strength
- Bonds most metals, clear plastics and glass
- Low-Odour Acrylic Adhesive
- Excellent shear and peel strength
- Excellent resistance to UV, non-yellowing
- Very good performance at elevated temperatures
- Very good ageing properties in humid and warm environment

Typical Uncured Properties

	BASE	ACCELERATOR
Base	Acrylic	Acrylic
Specific Gravity	1.07	1.07
Viscosity Brookshield viscometer 25rpm/2 min @ 25°C	8000	8000
Colour	Transparent (Colourless)	Transparent (Colourless)
Work Life in Mixing Nozzle² @ 23°C (73°F)	3 minutes	
Time to Handling Strength (0.35 MPa Shear Strength @ 23°C (73°F))	4 minutes	
Applied Open Time (3mm bead)² @ 23°C (73°F)	4 minutes	
Mix Ratio	By Volume By Weight	1:1 1:1

Typical Adhesive Performance Characteristics

Overlap Shear³ to Various Substrates

	MPa	Failure mode
Aluminium-120 grit abraded	8.6	af
Steel – 120 grit abraded	9.5	af
Glass	8.0	sf
ABS	5.8	cf/af
PVC	3.0	af
Polycarbonate	4.4	cf
PMMA	3.3	cf/af
PA	2.3	af

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

Overlap Shear³ Abraded Aluminium Tested at Various Temperatures

Temperature	Strength (MP a)
40 °C	9.2
60 °C	10.1
80 °C	8.7

Abraded Aluminium	Strength (MP a)
Dry heat 7 days at 70°C	8.7
40 °C 95% RH for 14 days	8.3
40 °C 95% RH for 30 days	8.2
PC	Strength (MP a)
40 °C 95% RH for 14 days	6.1
40 °C 95% RH for 30 days	3.9
PMMA	Strength (MP a)
40 °C 95% RH for 14 days	6.0
40 °C 95% RH for 30 days	3.0

UV stability:

No change after 3 weeks exposure with 0,4 mW / cm²

Test Methods and Footnotes :

1. Viscosity obtained by Brookfield, DV-II, #7 Spindle, 25rpm at 25°C (77°F).
2. Time, in minutes, for adhesive to gel at 24°C (75°F) in the specified condition.
3. Overlap Shear Test Method: overlap shear test for adhesion determined in accordance to ASTM D1002-72, sample dimensions were 25mm x 100mm x 3mm, with a 325mm² area of overlap, bonded to themselves unless otherwise noted, allowed to cure for at least 6 hours at 24°C (75°F) before testing. Data were collected using a Sintech 5GL Mechanical Tester with a 2000# or 5000# lead cell. Test rate was 0.1"/minute. Strength determined at 24°C (75°F) unless otherwise noted.
4. Environmental tests were conducted by immersing bonded coupons prepared in accordance to description in footnote 3.
5. Peel tests (ASTM D1876-61T) on FPL etched, 0.8mm gauge aluminum, with a 0.4mm bond line thickness. Jaw separation rate 500mm/min. All bonds were allowed to cure for at least 6 hours at 24°C (75°F) before testing

Storage	Store Duo-Pak cartridges at 4°C or below.
Shelf Life	3M DP804 has a shelf life of 24 months from date of dispatch by 3M when stored in the original carton at 4°C & 50 % Relative Humidity
Precautionary Information	<p>It is recommended to use 3M Scotch-Weld EPX Applicator and Mixing Nozzles to apply the adhesive to obtain the correct mixing ratio. Due to its exothermic features, it is not recommended to mix the two components of the adhesive manually. In any case, the amount of adhesive mixed at the same time should not exceed 5 grams.</p> <p>Refer to product label and Material Safety Data Sheet for health and safety information before using the product.</p> <p>For information please contact your local 3M Office. www.3M.com</p>
For Additional Information	To request additional product information or to arrange for sales assistance, call 0870 6080050 Address correspondence to: 3M United Kingdom PLC, 3M House, 28 Great Jackson Street, Manchester, M15 4PA

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Values presented have been determined by standard test methods and are average values not to be used for specification purposes. Our recommendations on the use of our products are based on tests believed to be reliable but we would ask that you conduct your own tests to determine their suitability for your applications. This is because 3M cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our recommendations

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