

Technical data sheet



Product: DP8805NS

Manufacturer: 3M DEUTSCHLAND GMBH

Product group: KLEBSTOFF

Article group: 2-K KLEBSTOFF

Download: 27.04.2024

3M™ SCOTCH-WELD™ DP8805NS

This data sheet was provided to you by Tewipack Uhl GmbH. The company tewipack Uhl GmbH assumes no responsibility for the topicality and the Accuracy of the information contained. The properties of the products can vary due to various influences such as composition and condition of the Substrate, impurities in or on the substrate, temperature and humidity at the Change storage and environmental conditions during use. Using this product in combination with other material, the customer is responsible for to check through our own tests whether the product is suitable for the planned combination and whether this combination delivers the expected results

Tewipack Uhl GmbH
Industriestraße 15
D-75382 Althengstett

Telephone:
+49(0)7051/9297-0
Fax:
+49(0)7051/9297-99

E-Mail:
info@tewipack.de
Website:
www.tewipack.de

Managing director:
Alexander Uhl,
Michael Uhl
HRB 330424
Amtsgericht
Stuttgart

Bank details:
Sparkasse
Sindelfingen
Pforzheim
Calw
BLZ 666 500
85
Konto 17 787

Commerzbank
Sindelfingen
BLZ 603 400 71
Konto 8 001 166

Vereinigte
Volksbank AG
Böblingen
BLZ 603 900 00
Konto 80 089
003

Postbank
Stuttgart
BLZ 600 100
70
Konto 146
294 708



Scotch-Weld™ Low Odour Acrylic Adhesive DP8805NS Green

Product Data Sheet

Date: September 2022
Supersedes: December 2016

Product Description

3M™ Scotch-Weld™ Low Odour Acrylic Adhesives are high performance, two-part acrylic adhesives with lower odour than most acrylic adhesives. These toughened products feature improved shear, peel and impact performance. These durable products feature a fast rate of strength build, providing structural strength in minutes.

Key Features

- Adhesion to many plastics and metal
- Toughened
- Work life of approximately 4 minutes
- Good shear strength
- Structural strength in about 10 minutes
- High peel strength
- 10:1 mix ratio
- Increased cure speed with applied heat
- Contain glass beads (250µ diameter) to control bond line thickness

Note:

Unless otherwise indicated, all properties measured at 22 °C.

Physical Properties

Property	DP8805NS Green	
Colour	Base (B) Accelerator (A)	Off-white Blue
Viscosity ¹	Base (B) Accelerator (A)	45000 mPas 15000 mPas
Density ²	Base (B) Accelerator (A)	1,06 g/cm ³ 1,08 g/cm ³
Mix ratio	By volume By weight	10 Parts B : 1 Part A 10 Parts B : 1 Part A
Note: Cure speed times are approximate and depend on adhesive temperature.		
Work life ³		3-5 min
Open time ⁴		4-6 min
Time to handling strength ⁵		6-8 min
Time to structural strength ⁶		8-10 min
Full cure time		24 hours

1. Viscosity measured using parallel plate viscometer; reported viscosity at 4 sec⁻¹ shear rate.

2. Density measured using pycnometer.

3. Maximum time that adhesive can remain in a static mixing nozzle and still be expelled without undue force on the applicator.

4. Maximum time allowed after applying adhesive to one substrate before bond must be closed and fixed in place.

5. Minimum time required to achieve 0,35 MPa of overlap shear strength.

6. Minimum time required to achieve 6,9 MPa of overlap shear strength.

Typical Mixed Physical Properties

Property	DP8805NS Green
Colour	Blue-Green
Full cure time	24 hours
Viscosity	45000 mPAs
Density	1,06 g/cm ³

Typical Cured Physical Properties

Overlap Shear (MPa)⁷

Substrate	DP8805NS Green
Aluminium	27,0 CF
Stainless steel	24,4 CF
PVC	13,6 SF
ABS	8,5 SF
Acrylic	7,3 SF
Polycarbonate	5,4 AF
Polystyrene	2,7 AF
Polyester (fiber-reinforced)	4,4 AF
Epoxy resin (fiber-reinforced)	22,7 CF
Aluminium (tested at 82°C)	6,1 CF

7. Overlap shear values measured using ASTM D1002; 1 min open time; adhesive allowed to cure for 24 hours at room temperature; 1/2" overlap; 0.010" bond line thickness; samples pulled at 0.1 in/min for metals and 2 in/min for plastics; all surfaces prepared with light abrasion and solvent clean; substrates used were 1/16" thick metals and 1/8" thick plastics; failure modes:

AF: adhesive failure

CF: cohesive failure

SF: substrate failure

Note: Environmental aging tests have shown that these adhesives may accelerate the corrosion of certain metals (such as bare steel, copper, brass, and bronze), leading to low bond strength values and early bond failure. These adhesives also have relatively low adhesion to low surface energy plastics (such as polypropylene, polyethylene, TPO, and PTFE). Applications involving any of these materials should be carefully evaluated by the end user for suitability.

Mechanical Properties⁸

Substrate	DP8805NS Green
Tensile modulus (GPa)	0,97
Tensile strength (MPa)	12,5
Tensile strain at break (%)	8,5

8. Tensile properties measured using ASTM D638; adhesives allowed to cure for 2 weeks at room temperature; 1/8" thick Type I test specimens; samples pulled at 0.2 in/min.

Floating Roller Peel (N/mm width)⁹

Substrate	DP8805NS Green
Aluminium	4,7 CF

9. Floating roller peel values measured using ASTM D3167; adhesives allowed to cure for 24 hours at room temperature; 1" wide samples; 0.017" bond line thickness; samples pulled at 6 in/min; aluminium surfaces etched; substrates used were 1/16" thick and 0.020" thick aluminium; failure modes:

AF: adhesive failure

CF: cohesive failure

SF: substrate failure

Note: The data in this sheet were generated using the 3M™ EPX™ Applicator System equipped with an EPX static mixer, according to manufacturer's directions. Thorough hand-mixing will afford comparable results.

Environmental Resistance¹⁰

Condition	Substrate	DP8805NS Green
150 °C	Aluminium	100 %
50 °C + 80 % relative humidity		60 %
85 °C + 85 % relative humidity		50 %
Water		70 %
Salt water (5 w t% in water)		70 %
Diesel fuel		100 %
Motor oil		100 %
Antifreeze (50 wt % in water)		85 %
Isopropyl alcohol		50 %
Bleach (10 wt% in water)		60 %
50 °C + 80 % relative humidity	PVC	100 %
Water		100 %
Salt water (5 wt % in water)		100 %
Sulphuric acid (16 wt % in water)		100 %
Sodium hydroxide (10 wt % in water)		90 %

10. Values indicate overlap shear test performance retained after 1,000 hours of continuous exposure relative to a control sample left at room temperature; samples conditioned for 24 hours at room temperature and 50% relative humidity prior to tests; "NT" = not tested yet.

Note: Fully-cured Low Odour Acrylic Adhesives can withstand short-term incidental contact with almost any solvent, chemical, or environmental condition. However, long-term continuous exposure to the following liquids should be avoided:

1. Elevated temperature (>37°C) water
2. Ketone-type solvents (acetone, MEK)
3. Gasoline and similar liquids

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 completely removed. 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.

For Bulk Containers

Mix thoroughly by weight or volume in the proportion specified on the product label or in the typical uncured properties section. Mix approximately 15 seconds after obtaining a uniform colour.

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. Optimum bond line thickness ranges from 0.005 to 0.020 inch; 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

3M™ Scotch-Weld™ Acrylic Adhesives are designed to be used on metal, wood and most plastic surfaces. The following cleaning methods are suggested for common surfaces:

Steel:

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.

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.*

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.

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

Storage & Shelf Life

Store product at 27 °C or below. Refrigeration at 4 °C will help extend shelf life. Do not freeze. Allow product to reach room temperature prior to use.

The product can be stored up to 18 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.....
Address correspondence to: 3M

Automotive Disclaimer

Automotive Applications: This product is an industrial product and has not been designed or tested for use in certain automotive applications, including, but not limited to, automotive electric powertrain battery or high voltage applications. This product does not fully adhere to typical automotive design or quality system requirements, such as IATF 16949 or VDA 6.3. This product may not be manufactured in an IATF certified facility and may not meet a Ppk of 1.33 for all properties. The product may not undergo an automotive production part approval process (PPAP). Customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's automotive application and for conducting incoming inspections before use of the product. Failure to do so may result in injury, death, and/or harm to property. No written or verbal statement, report, data or recommendation by 3M related to automotive use of the product shall have any force or effect unless in an agreement signed by the Technical Director of 3M's Automotive Division. Customer assumes all responsibility and risk if customer chooses to use this product in an automotive electric powertrain battery or high voltage application, and 3M will not be liable for any loss or damage arising from or related to the 3M product or customer's use of the product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity or recall costs), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability. In no event shall 3M be liable for any damages in excess of the purchase price paid for the product.

NOTWITHSTANDING ANY OTHER STATEMENT TO THE CONTRARY, 3M MAKES NO REPRESENTATIONS, WARRANTIES OR CONDITIONS WHATSOEVER, EXPRESS OR IMPLIED, REGARDING THE PRODUCT IF USED IN AN AUTOMOTIVE ELECTRIC POWERTRAIN BATTERY OR HIGH VOLTAGE APPLICATION, INCLUDING, BUT NOT LIMITED

TO, ANY WARRANTY ON PERFORMANCE, LONGEVITY, SUITABILITY, COMPATIBILITY, OR INTEROPERABILITY, OR ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE.

Important Notice

All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method or application. All questions of liability relating to this product are governed by the terms of the sale subject, where applicable, to the prevailing law

3M is a trademark of the 3M Company.

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

3M United Kingdom PLC
2M Centre, Cain Road, Bracknell
RG12 8HT
United Kingdom

3M Svenska AB
Herrjärva torg 4
170 67 Solna
Sweden

3M Eesti OÜ
Pärnu mnt. 158
11317 Tallinn
Estonia

3M Ireland Ltd
The Iveagh Building, 3rd Floor
The Park, Carrickmines 18
Ireland

3M a/s
Hannemanns Allé 53
DK-2300 Copenhagen S.
Denmark

3M Latvia SIA
K.Ulmaņa gatve 5
Rīga, LV-1004
Latvia

3M Belgium bvba/sprl
Hermeslaan 7
1831 Diegem
Belgium

3M Norge AS
Tærudgata 16
2004 Lillestrøm
Norway

3M Lietuva UAB
A.Goštauto g. 40
Vilnius LT- 03163
Lithuania

3M Nederland B.V.
Molengraaffsingel 29
2629 JD Delft
The Netherlands

Suomen 3M Oy
Keilaranta 6
02150 Espoo
Finland