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English-US

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Technical Data Sheet

3M™ Scotch-Weld™ Low Odor Acrylic Adhesive DP8805LH Green

Product Details

Regulatory Info/SDS

Product Description

3M™ Scotch-Weld™ Low Odor Acrylic Adhesives are high performance, two-part acrylic adhesives with lower odor than most acrylic adhesives. These toughened products offer excellent shear, peel, and impact performance. They provide improved adhesion to many plastics and metals, including those with slightly oily surfaces. These durable products feature an exceptionally fast rate of strength build, providing structural strength in minutes.
Note: The following data are taken from tests conducted on a limited number of production runs. 3M will continue to test samples from additional manufacturing lots and issue a new technical data sheet if the results change.

Product Features

• Toughened • Work life of approximately 3 minutes • Excellent shear strength • Structural strength in about 9 minutes • High peel and impact strength • Contains 0.004” diameter glass spacer beads • 10:1 mix ratio • Increased cure speed with applied heat

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	Temperature	Value
Base Color		Off-White
Accelerator Color		Blue
Base Density		1.2 g/cm³ [1]
Accelerator Density		1.08 g/cm³ [1]
Base Viscosity	23 °C (73 °F)	35,000 cP [2]
Accelerator Viscosity	23 °C (73 °F)	35,000 cP [2]
Mix Ratio by Volume (B:A)		10:1
Mix Ratio by Weight (B:A)		11:1

[1] Density measured using pycnometer.

[2] Viscosity measured using cone-and-plate viscometer; reported viscosity at 4 sec^{-1} shear rate.

Typical Mixed Physical Properties

Attribute Name	Temperature	Value
Open Time		3 min [1]
Worklife	23 °C (73 °F)	3 — 4 min [2]
Set Time (min)	23 °C (73 °F)	6 — 7 min [3]
Time to Full Cure	23 °C (73 °F)	24 h [4]
Time to Structural Strength		8 — 9 min [5]
Density (mixed)		1.19 g/cm³
Viscosity		35,000 cP

[1] Max time allowed after applying adhesive to a substrate before bond must be closed and fixed. Cure times approximate and depend on adhesive temperature. Hotmelts: The approx. bonding range of a 3.2 mm (1/8 in) bead of molten adhesive on a non-metallic surface.

[2] Maximum time that adhesive can remain in a static mixing nozzle and still be expelled without undue force on the applicator. Cure times are approximate and depend on adhesive temperature.

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

temperature.

[4] The cure time is defined as that time required for the adhesive to achieve a minimum of 80% of the ultimate strength as measured by aluminum-aluminum OLS.

[5] Minimum time required to achieve 6.9 MPa (1,000 psi) of overlap shear strength. Cure times are approximate and depend on adhesive temperature.

Typical Physical Properties

Attribute Name	Value
Cured Color	Blue-Green
Mixed Color	Blue-Green

Typical Cured Characteristics

Attribute Name	Value
Total Bromine	<20 ppm [1]
Total Chlorine	420 ppm [1]
Total Halogens	<440 ppm [1]

[1] Halogen content measured using ion chromatography; “low halogen” defined by International Electrotechnical Commission (IEC) Standard 61249-2-21 as having less than 900 ppm chlorine, less than 900 ppm bromine, and less than 1,500 ppm total halogens.

Typical Performance Characteristics

Substrate: Aluminum
Surface Prep: Etched
Temperature: 23 °C (73 °F)
Test Condition: 23 °C

Attribute Name	Test Method	Value
Bell Peel	ASTM D3167	20 lb/in width (CF) [1]

[1] Floating roller peel; adhesives allowed to cure for 24 hours @RT; 25 mm (1 in) wide samples;
Samples pulled at 15 mm/min (6 in/min)
Cohesive (CF), Adesive (AF) and Substrate (SF) Failure

Handling/Application Information

Directions for Use

1. To obtain the highest strength structural bonds, paint, oxide films, oils, dust, mold 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 to allow 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 color.
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 color.
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 60°F (16°C) or above until completely firm. Applying heat up to
150°F (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™ Low Odor Acrylic Adhesives are designed to be used on painted or coated metals, most plastics, glass, and some bare metals. The following cleaning methods are suggested for common surfaces:
Painted/coated metals:
1. Wipe surface free of dust and dirt with clean cloth and pure isopropyl alcohol.*
2. Sandblast or lightly abrade using clean fine grit abrasives. Do not completely remove the paint layer or coating down to bare steel.
3. Wipe again with clean cloth and pure isopropyl alcohol to remove loose particles.*
Aluminum/stainless steel:
1. Wipe surface free of dust and dirt with clean cloth and pure acetone.*
2. Sandblast or lightly abrade using clean fine grit abrasives.
3. Wipe again with clean cloth and pure acetone to remove loose particles.*
Plastics:
1. Wipe surface free of dust and dirt with clean cloth and pure isopropyl alcohol.*
2. Lightly abrade using fine grit abrasives.
3. Wipe again with clean cloth and pure isopropyl alcohol to remove loose particles.*
Glass:
1. Wipe surface free of dust and dirt with clean cloth and pure acetone.*
2. Apply a thin coating of silane adhesion promoter to the glass surface and allow to dry completely before adhesive bonding.
*Note: When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer's precautions and directions for use.

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original packaging, out of direct sunlight. Refrigeration at 4°C (40°F) will help extend shelf life. Do not freeze. Allow product to reach room temperature prior to use. For best performance, use this product within 24 months from date of manufacture.

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

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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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

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