



3M Science.
Applied to Life.™

Changing what's possible for bonding metal assemblies

3M™ Scotch-Weld™ Metal Bonder Acrylic Adhesive DP8407NS

Assembly Solutions: Common applications

Across industries, applications, and substrates, 3M offers a wide range of bonding products that can help improve product design and make assembly processes more efficient.



Panel-to-Frame/
Stiffener-to-Panel



Small Joint
Assembly



Large Surface
Lamination



Mounting and
Trim Attachment



Gasket
Attachment



Sealing/
Potting



What's your challenge? Solve it with an adhesive bond.



Designed for bonding a wide range of metals and assemblies, the new 3M™ Scotch-Weld™ Metal Bonder Acrylic Adhesive DP8407NS delivers exceptional strength, extreme temperature resistance and reliable performance. Replace mechanical fasteners and welds and take advantage of these benefits!

Advancements for products and production

- Minimal surface preparation—bonds through slightly oily metals
- Extreme temperature resistance up to 149°C/300°F and down to -40°C/-40°F
- Fast cure and high impact resistance
- Long shelf life, without refrigeration
- Enables design innovations by eliminating welding and mechanical fasteners

Performance for extreme conditions

This is the solution for extreme conditions—from hot and cold temperatures to oily surfaces and harsh environments. Your products and processes will benefit from high impact strength, fast cure and corrosion resistance.

It's time to change what's possible with 3M Brand Next Generation Structural Acrylic Adhesives.



3M™ Scotch-Weld™ Metal Bonder Acrylic Adhesive Key Properties

Product (Colour)	Key Features	Mix Ratio B:A (Volume)	Approximate Viscosity at 24°C/75°F (cP)	Approximate Mixed Work Life at 24°C/75°F	Approximate Time to Handling Strength at 24°C/75°F	Overlap Shear at 24°C/75°F	Overlap Shear at 82°C/180°F	Floating Roller Peel 24°C/75°F
DP8407NS	<ul style="list-style-type: none"> • High impact • Adhesion to most metals 	10:1	20,000	7 minutes	24 minutes	4500 psi	1400 psi	50

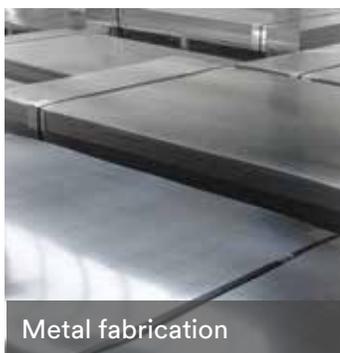
Ordering Information

Product	Size	Units/Case	Stock #	UPC
DP8407NS	45 mL	12/CV	62-2853-1445-0	0-00-76308-86273-2
	490 mL	6/CV	62-2853-3630-0	0-00-76308-86285-5

Hardware

Product	Size	Units/Case	Stock #	UPC
EPX™ Plus II Applicator	45 mL	10	62-9170-9930-1	0-00-21200-50004-6
Pneumatic Applicator	490 mL	1	62-9152-9930-9	0-00-51115-69041-9
Manual Applicator	490 mL	1	62-9182-9930-6	0-00-51115-71115-2
Plunger	45 mL	10	62-9160-9910-4	0-00-51115-69044-0
Square Orange Nozzle	45 mL	36	62-9154-9136-9	0-00-51115-69043-3
Helical Orange Nozzle	490 mL	36	62-9158-9136-0	0-00-51115-69042-6
Square Green Nozzle	490 mL	36	62-9184-9490-7	0-00-51115-81619

Industry applications



Powder coating

The competitive market today requires manufacturers to make products that are not only durable, but also aesthetically pleasing. Powder coating is a dependable choice for long-lasting, weather resistant finish. Manufacturers are now relying on structural adhesives that can bond parts together that go through the powder coating process.



The high strength solution for extreme temperature processes

Assemblies that require powder coating or painting typically encounter extreme temperature challenges. The new 3M™ Metal Bonder Acrylic Adhesive DP8407NS is designed to withstand these temperatures, making it possible to eliminate mechanical fasteners, welds and spot welds, and take advantage of the design and process benefits of 3M's bonding science.

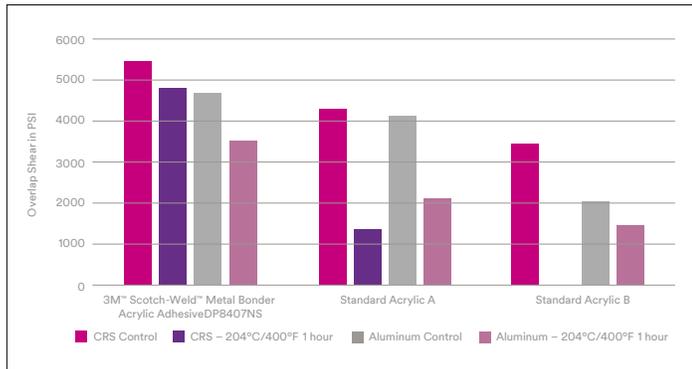
The advantages for products and processes

- Promotes adhesion to bare steel, aluminum and most other metals
- Eliminates the process and finishing time associated welding and mechanical fasteners

Handles extreme oven temperatures

- Handles extreme temperatures—up to 204°C/400°F for at least one hour
- Designed to withstand powder coat and paint bake processes

Overlap Shear Simulated Powdercoat Process Effects



Source: Changing what's possible for bonding metal assemblies, 2016, 3M Company

Chart shows the strength retention after a simulated powder coat heat cycle for each adhesive. Lower retention indicates a permanent loss of strength. 3M™ Scotch-Weld™ Metal Bonder Acrylic Adhesive DP8407NS loses very little permanent strength when exposed to a temperature of 204°C/400°F for 1 hour.

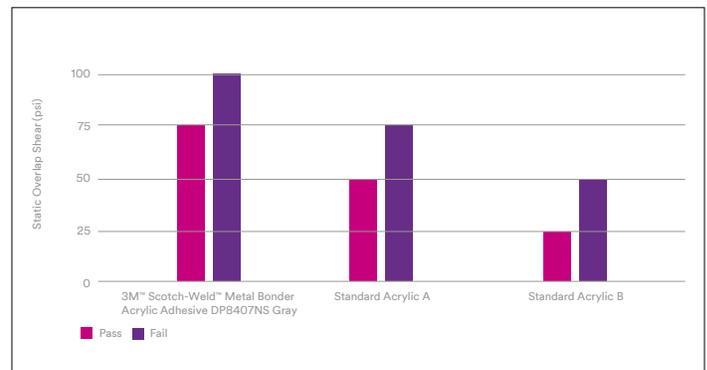


Load bearing performance

- Maintains load-bearing performance at extreme temperatures

Dead Load Holding Strength at 204°C/400°F for 1 Hour

DP8407NS withstands a load of 75 psi at 204°C/400°F for 1 hour, but not at 100 psi



Source: Changing what's possible for bonding metal assemblies, 2016, 3M Company

Chart shows the shear load (dead load in shear) that the adhesive can hold at 204°C/400°F (powder coat temperature). Magenta bar: load held. Maroon bar: load did not hold (fail). 3M™ Scotch-Weld™ Metal Bonder Acrylic Adhesive DP8407NS can hold a dead load in shear of 34 Kgs (75 lbs) during a powder coat cycle, but may fail at higher loads.



Improved bare metal applications

Until now, corrosion has been a challenge for designers of metal products and sub-assemblies. The new 3M™ Metal Bonder Acrylic Adhesive DP8407NS helps combat this challenge, making it possible to bond a variety of metal alloys.

The advantages for products and processes*

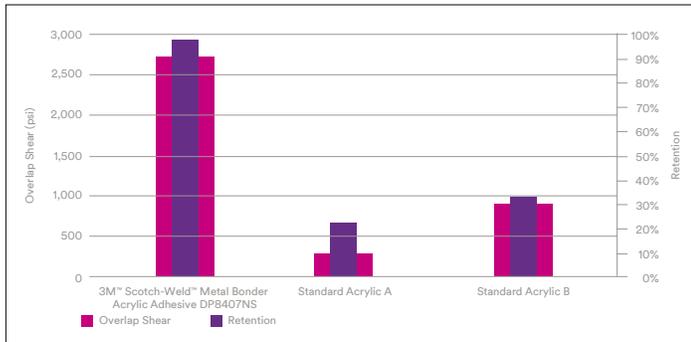
- Bonds aluminum, steel, galvanized steel, brass, copper, nickel and most other metals
- Eliminates the need for metal fasteners or welding

Resists corrosion

- Minimize performance loss compared to standard acrylics

Bond Strength Retention after High Temperature and Humidity Exposure

Overlap shear on abraded cold rolled steel; 22°C/72°F test temperature; 500 hours exposure 66°C/150°F + 80% RH



Source: Changing what's possible for bonding metal assemblies, 2016, 3M Company

On abraded, cold rolled steel, 3M™ Scotch-Weld™ Metal Bonder Acrylic Adhesive DP8407NS shows high shear strength after exposure to 66°C/150°F and 80% relative humidity for 500 hours (accelerated outdoor weathering), whereas some competitive acrylics will lose strength due to steel corrosion accelerated by the adhesive.

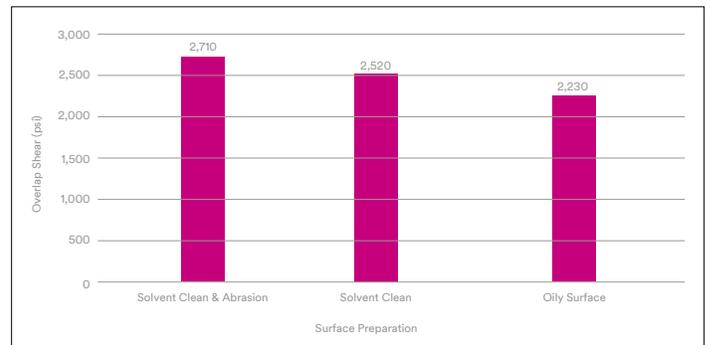


Bonds oily metal

- Minimal surface prep

Bond to Oily Metal with no Surface Preparation

80–90% performance retention bonding to oily metals



Source: Changing what's possible for bonding metal assemblies, 2016, 3M Company

3M™ Scotch-Weld™ Metal Bonder Acrylic Adhesive DP8407NS achieves very high bond strength even on oily, unabraded steel, indicating that surface preparation steps may not be needed (always remove oxide from metals prior to bonding).



*For full product information, refer to the technical data sheet or contact your 3M representative.

Disclaimer

Technical Information:

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use:

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

Limitation of Liability:

Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

Warranty, Limited Remedy, and Disclaimer: Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.



3M Industrial Adhesives & Tapes Division

3M Canada

P.O. Box 5757

London, ON N6A 4T1

1-800-364-3577

www.3M.ca/StructuralAdhesives

3M, 3M Science, Applied to Life, Scotch-Weld and EPX are trademarks of 3M. Used under license in Canada.
© 2017, 3M. All rights reserved. 161107085 E BA-17-22478