

# Technical Data Sheet

## 3M™ Scotch-Weld™ Acrylic Adhesive DP8425NS Green

### Product Description

3M™ Scotch-Weld™ Acrylic Adhesives are high performance, two-part acrylic adhesives that offer excellent shear, peel, and impact performance. These toughened products provide improved adhesion to many plastics and metals, including those with slightly oily surfaces. These durable products feature a fast rate of strength build, providing structural strength in minutes. Review UL File QQQW2. MH17478 and Sign Components Manual (SAM) File E464624 for certification of these adhesive systems in electrical equipment.

### Product Features



- Toughened
- Variety of open times available
- Excellent shear strength
- Increased cure speed with applied heat
- Outstanding peel and impact strength
- Contain glass beads (0.010" diameter) to control bond line thickness
- 10:1 mix ratio control bond line thickness


Note: Unless otherwise indicated, all properties measured at 72°F (22°C).

### Technical Information Note


The following technical information and data should be considered representative or typical only and should not be used for specification purposes. Environmental aging tests have shown that these adhesives may accelerate the corrosion of certain bare metals (such as cold rolled 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.

### Typical Mixed Physical Properties

Property	Values	Additional Information
Open Time	21 min	<a href="#">View</a> 
Notes: POR=Pop Off Rubber		
Time to Structural Strength	50 to 56 min	<a href="#">View</a> 
Notes: Minimum time required to achieve 1,000 psi of overlap shear strength. Cure times are approximate and depend on adhesive temperature.		
Viscosity	85000 cP	
Density (mixed)	1.03 g/cm³	


Worklife 22 to 24 min [View](#) 

Notes: 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.

Set Time (min) 42 to 46 min [View](#) 


Temp C: 23C  
Temp F: 73F

Notes: Minimum time required to achieve 50 psi of overlap shear strength. Cure times are approximate and depend on adhesive temperature.


Time to Full Cure 24 hr [View](#) 

Temp C: 23C  
Temp F: 73F

### Typical Physical Properties

Property	Values	Additional Information
Color	Green	<a href="#">View</a> 

Test Name: Mixed


Color	Green	<a href="#">View</a> 
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Test Name: Cured


### Typical Uncured Physical Properties

Property	Values	Additional Information
Base Color	Brown	


Accelerator Color	Blue	
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Base Density 1.02 g/cm<sup>3</sup> [View](#) 


Notes: Density measured using pycnometer.

Accelerator Density	1.07 g/cm <sup>3</sup>	<a href="#">View</a> 
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Notes: Density measured using pycnometer.

Base Viscosity 90000 cP [View](#) 

Notes: Viscosity measured using cone-and-plate viscometer; reported viscosity at 3.8 sec<sup>-1</sup> shear rate.

Accelerator Viscosity	30000 cP	<a href="#">View</a> 
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Notes: Viscosity measured using cone-and-plate viscometer; reported viscosity at 3.8 sec<sup>-1</sup> shear rate.

Mix Ratio by Volume (B:A)	10:1
Mix Ratio by Weight (B:A)	9.5:1

### Typical Performance Characteristics

#### Additional Test notes


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.

Property	Values	Additional Information
Environmental Resistance 49C 100%RH Aluminum	50 %	<a href="#">View</a> 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 49C  
Temp F: 120F  
Environmental Condition: 100%RH  
Substrate: Aluminum

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance 32C 100%RH Aluminum	85 %	<a href="#">View</a> 
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Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 32C  
Temp F: 90F  
Environmental Condition: 100%RH  
Substrate: Aluminum

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids


Environmental Resistance 66C 80%RH Aluminum	60 %	<a href="#">View</a> 
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Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 66C  
Temp F: 150F  
Environmental Condition: 80%RH  
Substrate: Aluminum


Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance -40°C (-40°F)		
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Aluminum 100 % [View](#) 

Test Name: Overlap Shear Strength


Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance 149C Aluminum 100 % [View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 149C  
Temp F: 300F  
Substrate: Aluminum


Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance 49C 80%RH Aluminum 85 % [View](#) 

Test Method: ASTM D1002


Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 49C  
Temp F: 120F  
Environmental Condition: 80%RH  
Substrate: Aluminum

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance 85°C (185°F) 85%RH Aluminum 45 % [View](#) 

Test Name: Overlap Shear Strength


Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance 100%RH Aluminum 95 % [View](#) 

Test Method: ASTM D1002


Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 72F  
Environmental Condition: 100%RH  
Substrate: Aluminum

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance 23°C (72°F) Salt water (5 wt% in water) Aluminum 85 % [View](#) 

Test Name: Overlap Shear Strength


Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance Gasoline Aluminum 55 % [View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 72F  
Environmental Condition: Gasoline  
Substrate: Aluminum


Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance Diesel Fuel Aluminum 100 % [View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 72F  
Environmental Condition: Diesel Fuel  
Substrate: Aluminum


Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance Motor Oil Aluminum 100 % [View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 72F  
Environmental Condition: Oil 10W30  
Substrate: Aluminum


Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance Antifreeze (50 wt% in water) Aluminum 100 % [View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 72F  
Environmental Condition: Antifreeze (50 wt% in water)  
Substrate: Aluminum

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance Isopropyl Alcohol (IPA) Aluminum 85 % [View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 72F  
Environmental Condition: Isopropyl Alcohol (IPA)  
Substrate: Aluminum

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance Bleach (10 wt% in water) Aluminum 90 %

[View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 72F  
Environmental Condition: Bleach (10 wt% in water)  
Substrate: Aluminum

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance -40C Polyvinyl chloride (PVC) 100 %

[View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: -40C  
Temp F: -40F  
Substrate: Polyvinyl chloride (PVC)

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance 49C Polyvinyl chloride (PVC) 95 %

[View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 49C  
Temp F: 120F  
Substrate: Polyvinyl chloride (PVC)

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance 66C Polyvinyl chloride (PVC) 95 %

[View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 66C  
Temp F: 150F  
Substrate: Polyvinyl chloride (PVC)

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance 100%RH Polyvinyl chloride (PVC) 100 %

[View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 72F  
Environmental Condition: 100%RH  
Substrate: Polyvinyl chloride (PVC)

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance Salt water (5 wt% in water) Polyvinyl chloride (PVC) 95 %

[View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 72F  
Environmental Condition: Salt water (5 wt% in water)  
Substrate: Polyvinyl chloride (PVC)

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance Hydrochloric acid (16 wt% in water) Polyvinyl chloride (PVC) 95 %

[View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 72F  
Environmental Condition: Hydrochloric acid (16 wt% in water)  
Substrate: Polyvinyl chloride (PVC)

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance Sodium hydroxide (10 wt% in water) Polyvinyl chloride (PVC) 90 %

[View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 72F  
Environmental Condition: Sodium hydroxide (10 wt% in water)  
Substrate: Polyvinyl chloride (PVC)

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Environmental Resistance 85C 85%RH Polyvinyl chloride (PVC) 100 %

[View](#) 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 1000.0  
Dwell Time Units: hr  
Temp C: 85C  
Temp F: 185F  
Environmental Condition: 85%RH  
Substrate: Polyvinyl chloride (PVC)

Notes: Performance % to control sample @RT, tested after 24hr dwell @RT. Cured adhesives can handle short contact to most chemicals or env. cond. Avoid long exposure to: Temp >100°F + water Ketone-type solvents (acetone, MEK) Gasoline and similar liquids

Bell Peel 23°C (72°F) Aluminum 50 lb/in width

[View](#) 

Substrate: Etched Aluminum  
Failure Mode: CF

Notes: 6 in/min, 1in wide, 1/16in thick Data from 3M™ EPX™ Applicator System with an EPX static mixer according to manufacturer's directions. Thorough hand-mixing will afford comparable results. Cohesive (CF), Adesive (AF) and Substrate (SF) Failure

## Typical Cured Characteristics

Property	Values	Additional Information
Modulus	Not tested lb/in <sup>2</sup>	<a href="#">View</a>
Notes: 1/8" thick Type I test specimens; samples pulled at 0.2 in/min. ASTM D638 2 week dwell at 23°C (72°F)		
Tensile Strength	Not tested lb/in <sup>2</sup>	<a href="#">View</a>
Notes: 1/8" thick Type I test specimens; samples pulled at 0.2 in/min.		
Tensile Strain at Break	Not tested %	<a href="#">View</a>
Notes: 1/8" thick Type I test specimens; samples pulled at 0.2 in/min.		
Overlap Shear Strength 24hour Aluminum	3,800 CF lb/in <sup>2</sup>	<a href="#">View</a>
<p>Test Method: ASTM D1002</p> <p>Test Name: Overlap Shear Strength Dwell/Cure Time: 24.0 Dwell Time Units: hr Temp C: 23C Temp F: 73F Environmental Condition: 50%RH Substrate: Aluminum Surface Preparation: Light Abrasion and Solvent Clean</p> <p>Notes: 1min open time, 1/2in overlap, 0.010in bond line thickness, separation rate 0.1 in/min metals, 2 in/min plastics, abraded and solvent wiped substrates, 1/16in metals, 1/8in plastics Cohesive (CF), Adhesive (AF), and Substrate (SF) Failure</p>		
Overlap Shear Strength 24hour Stainless Steel	3,400 CF lb/in <sup>2</sup>	<a href="#">View</a>
<p>Test Method: ASTM D1002</p> <p>Test Name: Overlap Shear Strength Dwell/Cure Time: 24.0 Dwell Time Units: hr Temp C: 23C Temp F: 73F Environmental Condition: 50%RH Substrate: Stainless Steel Surface Preparation: Light Abrasion and Solvent Clean</p> <p>Notes: 1min open time, 1/2in overlap, 0.010in bond line thickness, separation rate 0.1 in/min metals, 2 in/min plastics, abraded and solvent wiped substrates, 1/16in metals, 1/8in plastics Cohesive (CF), Adhesive (AF), and Substrate (SF) Failure</p>		
Overlap Shear Strength 24hour PVC	1,600 SF lb/in <sup>2</sup>	<a href="#">View</a>
<p>Test Method: ASTM D1002</p> <p>Test Name: Overlap Shear Strength Dwell/Cure Time: 24.0 Dwell Time Units: hr Temp C: 23C Temp F: 73F Environmental Condition: 50%RH Substrate: Polyvinyl chloride (PVC) Surface Preparation: Light Abrasion and Solvent Clean</p> <p>Notes: 1min open time, 1/2in overlap, 0.010in bond line thickness, separation rate 0.1 in/min metals, 2 in/min plastics, abraded and solvent wiped substrates, 1/16in metals, 1/8in plastics Cohesive (CF), Adhesive (AF), and Substrate (SF) Failure</p>		
Overlap Shear Strength 24hour ABS	1,100 SF lb/in <sup>2</sup>	<a href="#">View</a>
<p>Test Method: ASTM D1002</p> <p>Test Name: Overlap Shear Strength Dwell/Cure Time: 24.0</p>		



Dwell Time Units: hr  
Temp C: 23C  
Temp F: 73F  
Environmental Condition: 50%RH  
Substrate: ABS  
Surface Preparation: Light Abrasion and Solvent Clean


Notes: 1min open time, 1/2in overlap, 0.010in bond line thickness, separation rate 0.1 in/min metals, 2 in/min plastics, abraded and solvent wiped substrates, 1/16in metals, 1/8in plastics Cohesive (CF), Adhesive (AF), and Substrate (SF) Failure

Overlap Shear Strength 24hour Acrylic 1,500 SF lb/in<sup>2</sup> View 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 24.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 73F  
Environmental Condition: 50%RH  
Substrate: Acrylic (PMMA)  
Surface Preparation: Light Abrasion and Solvent Clean


Notes: 1min open time, 1/2in overlap, 0.010in bond line thickness, separation rate 0.1 in/min metals, 2 in/min plastics, abraded and solvent wiped substrates, 1/16in metals, 1/8in plastics Cohesive (CF), Adhesive (AF), and Substrate (SF) Failure

Overlap Shear Strength 24hour Polycarbonate 1,200 SF lb/in<sup>2</sup> View 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 24.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 73F  
Environmental Condition: 50%RH  
Substrate: Polycarbonate (PC)  
Surface Preparation: Light Abrasion and Solvent Clean


Notes: 1/2" overlap; samples pulled at 0.1 in/min for metals and 2 in/min for plastics; all surfaces prepared with light abrasion and solvent clean; 0.005in bondline AF: Adhesive Failure CF: Cohesive Failure MF: Mixed failure modes

Overlap Shear Strength 24hour Polystyrene 550 SF lb/in<sup>2</sup> View 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 24.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 73F  
Environmental Condition: 50%RH  
Substrate: Polystyrene  
Surface Preparation: Light Abrasion and Solvent Clean

Notes: 1min open time, 1/2in overlap, 0.010in bond line thickness, separation rate 0.1 in/min metals, 2 in/min plastics, abraded and solvent wiped substrates, 1/16in metals, 1/8in plastics Cohesive (CF), Adhesive (AF), and Substrate (SF) Failure

Overlap Shear Strength 24hour Polyester (Fibre-Reinforced) 880 AF lb/in<sup>2</sup> View 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength  
Dwell/Cure Time: 24.0  
Dwell Time Units: hr  
Temp C: 23C  
Temp F: 73F  
Environmental Condition: 50%RH  
Substrate: Polyester (PET)  
Surface Preparation: Light Abrasion and Solvent Clean

Notes: 1min open time, 1/2in overlap, 0.010in bond line thickness, separation rate 0.1 in/min metals, 2 in/min plastics, abraded and solvent wiped substrates, 1/16in metals, 1/8in plastics Cohesive (CF), Adhesive (AF), and Substrate (SF) Failure

Overlap Shear Strength 24hour Epoxy Resin (Fibre Reinforced)

3,300 CF lb/in<sup>2</sup>

View 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength

Dwell/Cure Time: 24.0

Dwell Time Units: hr

Temp C: 23C

Temp F: 73F

Environmental Condition: 50%RH

Substrate: Epoxy Resin (Fibre Reinforced)

Surface Preparation: Light Abrasion and Solvent Clean

Notes: 1min open time, 1/2in overlap, 0.010in bond line thickness, separation rate 0.1 in/min metals, 2 in/min plastics, abraded and solvent wiped substrates, 1/16in metals, 1/8in plastics Cohesive (CF), Adhesive (AF), and Substrate (SF) Failure

Overlap Shear Strength 24hour Aluminum (Tested at -40°C/F)

3,800 CF lb/in<sup>2</sup>

View 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength

Dwell/Cure Time: 24.0

Dwell Time Units: hr

Temp C: 23C

Temp F: 73F

Environmental Condition: 50%RH

Substrate: Aluminum

Surface Preparation: Light Abrasion and Solvent Clean

Notes: 1min open time, 1/2in overlap, 0.010in bond line thickness, separation rate 0.1 in/min metals, 2 in/min plastics, abraded and solvent wiped substrates, 1/16in metals, 1/8in plastics Cohesive (CF), Adhesive (AF), and Substrate (SF) Failure

Overlap Shear Strength 24hour Aluminum (Tested at 82°C/180°F)

1,450 CF lb/in<sup>2</sup>

View 

Test Method: ASTM D1002

Test Name: Overlap Shear Strength

Dwell/Cure Time: 24.0

Dwell Time Units: hr

Temp C: 23C

Temp F: 73F

Environmental Condition: 50%RH

Substrate: Aluminum

Surface Preparation: Light Abrasion and Solvent Clean

Notes: 1min open time, 1/2in overlap, 0.010in bond line thickness, separation rate 0.1 in/min metals, 2 in/min plastics, abraded and solvent wiped substrates, 1/16in metals, 1/8in plastics Cohesive (CF), Adhesive (AF), and Substrate (SF) Failure

## Storage and Shelf Life

Store product at 80°F (27°C) or below. Refrigeration at 40°F (4°C) will help extend shelf life. Do not freeze. Allow product to reach room temperature prior to use.

3M™ Scotch-Weld™ Acrylic Adhesives have a shelf life of 24 months from date of manufacture in unopened original containers kept at recommended storage conditions.

## Industry Specifications

[EN 45545 test report for details \(ISO 5659-2, ISO 9239-1, ISO 5660-1, ISO 5658-2\)](#)

## Bottom Matter

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## Trademarks

3M, Scotch-Weld and EPX are trademarks of 3M Company.

## Automotive Disclaimer

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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.

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## Handling/Application Information

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### 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™ Acrylic Adhesives are designed to be used on painted or coated metals, most plastics, 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.

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

## References

Property	Values
3m.com Product Page	<a href="https://www.3m.com/3M/en_US/p/d/b40066486/">https://www.3m.com/3M/en_US/p/d/b40066486/</a>
Safety Data Sheet SDS	<a href="https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&amp;msdsLocale=en_US&amp;co=ptn&amp;q=DP8425NS Green">https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&amp;msdsLocale=en_US&amp;co=ptn&amp;q=DP8425NS Green</a>

## ISO Statement

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.

## 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 or (651) 737-6501.

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