

Technical Data Sheet

3M™ Scotch-Weld™ Low Odor Acrylic Adhesive DP8805NS Green

Product Description

3M™ Scotch-Weld™ Low Odor 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. Their low odor and non-flammability features also make them easier to incorporate into a manufacturing process. Review UL File QOQW2. MH17478 and Sign Components Manual (SAM) File E464624 for certification of these adhesive systems in electrical equipment.

Product Features


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

Typical Mixed Physical Properties

Property	Values	Additional Information
Open Time (min)	5 min	View 

Notes: 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 1/8" bead of molten adhesive on a non-metallic surface.

Time to Structural Strength	8 to 10 min	View 
-----------------------------	-------------	------------------------------------------------------------------------------------------------------------

Notes: Minimum time required to achieve 1,000 psi of overlap shear strength. Cure times are approximate and depend on adhesive temperature.

Viscosity	45000 cP	
-----------	----------	--

Density (mixed)	1.06 g/cm ³	
-----------------	------------------------	--

Worklife	3 to 5 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)	6 to 8 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	Blue-Green	View
-------	------------	------

Test Name: Mixed

Color	Blue-Green	View
-------	------------	------

Test Name: Cured

Typical Uncured Physical Properties

Property	Values	Additional Information
----------	--------	------------------------

Base Color	Off-White	
------------	-----------	--

Accelerator Color	Blue	
-------------------	------	--

Base Density	1.06 g/cm ³	View
--------------	------------------------	------

Notes: Density measured using pycnometer.

Accelerator Density	1.08 g/cm ³	View
---------------------	------------------------	------

Notes: Density measured using pycnometer.

Base Viscosity	45000 cP	View
----------------	----------	------

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

Accelerator Viscosity	15000 cP	View
-----------------------	----------	------

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

Mix Ratio by Volume (B:A)	10:1	
---------------------------	------	--

Mix Ratio by Weight (B:A)


10:1

Typical Performance Characteristics

Additional Test notes

Note: 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.


Note: The presence of oxygen inhibits the cure of acrylic structural adhesives. Therefore, any exposed surfaces of the mixed adhesive will cure much more slowly than adhesive contained within the bond line. With methyl methacrylate (MMA) acrylic adhesives, any uncured adhesive on the surface flashes off immediately, leaving a surface that feels dry to the touch. With these low odor acrylic adhesives, uncured adhesive on exposed surfaces does not evaporate away quickly, leaving a wet film of partially cured material. For manufacturing processes that need a dry surface quickly, such as for subsequent sanding or painting operations, consider instead the standard acrylic adhesives (DP8405NS Green, DP8410NS Green, DP8425NS Green, and Metal Bonder DP8407NS Green).

Property	Values	Additional Information
Environmental Resistance 49C 100%RH Aluminum	35 %	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: 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	55 %	View 
----------------------------------------------	------	------------------------------------------------------------------------------------------------------------

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	65 %	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
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) 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 
<p>Test Method: ASTM D1002</p> <p>Test Name: Overlap Shear Strength Dwell/Cure Time: 1000.0 Dwell Time Units: hr Temp C: 149C Temp F: 300F Substrate: Aluminum</p> <p>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</p>		

Environmental Resistance 49C 80%RH Aluminum	70 %	View 
<p>Test Method: ASTM D1002</p> <p>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</p> <p>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</p>		

Environmental Resistance 85°C (185°F) 85%RH Aluminum	50 %	View 
<p>Test Name: Overlap Shear Strength</p> <p>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</p>		






Environmental Resistance 100%RH Aluminum	70 %	View 
<p>Test Method: ASTM D1002</p> <p>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</p> <p>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</p>		

Environmental Resistance 23°C (72°F) Salt water (5 wt% in water) Aluminum	75 %	View 
<p>Test Name: Overlap Shear Strength</p> <p>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</p>		

Environmental Resistance Diesel Fuel Aluminum	95 %	View 
<p>Test Method: ASTM D1002</p> <p>Test Name: Overlap Shear Strength Dwell/Cure Time: 1000.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F</p>		

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 
<p>Test Method: ASTM D1002</p> <p>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</p> <p>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</p>		
Environmental Resistance Antifreeze (50 wt% in water) Aluminum	85 %	View 
<p>Test Method: ASTM D1002</p> <p>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</p> <p>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</p>		
Environmental Resistance Isopropyl Alcohol (IPA) Aluminum	60 %	View 
<p>Test Method: ASTM D1002</p> <p>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</p> <p>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</p>		
Environmental Resistance Bleach (10 wt% in water) Aluminum	65 %	View 
<p>Test Method: ASTM D1002</p> <p>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</p> <p>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</p>		
Environmental Resistance -40C Polyvinyl chloride (PVC)	100 %	View 
<p>Test Method: ASTM D1002</p> <p>Test Name: Overlap Shear Strength</p>		

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) 100 %

[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) 100 %

[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) 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: 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) 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: 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) 95 %

[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 25 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	140000 lb/in ²	View 
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	1800 lb/in ²	View 
Notes: 1/8" thick Type I test specimens; samples pulled at 0.2 in/min.		
Tensile Strain at Break	8.5 %	View 

Notes: 1/8" thick Type I test specimens; samples pulled at 0.2 in/min.

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™ Low Odor Acrylic Adhesives have a shelf life of 24 months from date of manufacture in unopened original containers kept at recommended storage conditions.

Industry Specifications

Review UL File QOQW2. MH17478 and Sign Components Manual (SAM) File E464624 for certification of these adhesive systems in electrical equipment.

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.

Bottom Matter

3M
Industrial Adhesives and Tapes Division
3M Center, Building 225-3S-06
St. Paul, MN 55144-1000
800-362-3550

Trademarks

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

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.

References

Property	Values
3m.com Product Page	https://www.3m.com/3M/en_US/p/d/b40066452/
Safety Data Sheet SDS	https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=DP8805NS Green

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.

Information

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

Product Selection and 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. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

Warranty, Limited Remedy, and Disclaimer: Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case

such warranty governs), 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, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 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.

Limitation of Liability: Except for the limited remedy stated above, and except to the extent prohibited by law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

Disclaimer: 3M industrial and occupational products are intended, labeled, and packaged for sale to trained industrial and occupational customers for workplace use. Unless specifically stated otherwise on the applicable product packaging or literature, these products are not intended, labeled, or packaged for sale to or use by consumers (e.g., for home, personal, primary or secondary school, recreational/sporting, or other uses not described in the applicable product packaging or literature), and must be selected and used in compliance with applicable health and safety regulations and standards (e.g., U.S. OSHA, ANSI), as well as all product literature, user instructions, warnings, and limitations, and the user must take any action required under any recall, field action or other product use notice. Misuse of 3M industrial and occupational products may result in injury, sickness, or death. For help with product selection and use, consult your on-site safety professional, industrial hygienist, or other subject matter expert. For additional product information, visit www.3M.com.