

August, 2014

# 3M™ Water-Based Sprayable Protective Sealant 320

## Product Description

3M™ Water-Based Sprayable Protective Sealant 320 is a one-part, water-based acrylic emulsion developed to provide long-term protection of metal surfaces in the transportation industry. It provides excellent corrosion protection and acts as a large surface sealant for roof applications. It is suitable for new metal surfaces and bonds exceptionally well to aged and previously coated surfaces.



## Product Features

- Easy application with spray equipment
- Fast drying, water-based emulsion
- Excellent corrosion resistance
- Highly UV resistant adhesion and durability
- Exceptional flexibility
- Seals large surfaces as a water barrier eliminating leaks
- Bonds well to steel, aluminum, and concrete surfaces

# 3M™ Water-Based Sprayable Protective Sealant 320

## 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

### Color

Available in black, light gray, dark gray, and white

## Typical Mixed Physical Properties

**Time to Full Cure:** 14 day

## Typical Performance Characteristics

Property	Values		Method
Tensile Strength	2.9 MPa	420 lb/in <sup>2</sup>	ASTM D412
Elongation at Break	250 %		ASTM D412
UV Resistance	>1000 h		ASTM G53

## Typical Physical Properties

Property	Values		Notes	Method	Test Condition
Solids Content by Weight	60 %				
VOC	3.9 g/L	0.03 lb/gal			
Appearance	Smooth Paste				

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# 3M™ Water-Based Sprayable Protective Sealant 320

## Typical Physical Properties (continued)

Property	Values		Notes	Method	Test Condition
Touch Dry Time	Approximately 1 h		Touch dry and minimum over coating times are for open areas with good air movement. Drying times will be extended in enclosed areas with limited air movement or high humidity.		
Hard Time	24 h				
Minimum Time for Over-coating	Approximately 1 h		Touch dry and minimum over coating times are for open areas with good air movement. Drying times will be extended in enclosed areas with limited air movement or high humidity.		
Maximum Time for Over-coating	Indefinite, provided surface is clean				
Salt Spray Resistance	>1000 h		350 micron coating thickness on grit blasted steel; No blistering, no corrosion at scribe, no loss of adhesion)	ASTM B117	
Humidity Resistance	>1000 h		No blistering, no corrosion at scribe, no loss of adhesion	ASTM D2247	
Water Vapor Permeability	20 g.mm/m <sup>2</sup> /24hr			ASTM E96	
Impact Resistance	120 in.lb			ASTM D2444	Room Temperature

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## Typical Physical Properties (continued)

Property	Values		Notes	Method	Test Condition
Cold Weather Flexibility	Pass 1/2" mandrel at -25 °C	Pass 1/2" mandrel at -15 °F		ASTM D522	
Abrasion Resistance	15 mg weight loss, CS16 wheel 500 g load, 1000 cycles			ASTM 4060	
Accelerated Weathering	>1000 h			ASTM D4541	
Adhesion to Aged 3003 Aluminum	2.1 MPa	304 lb/in <sup>2</sup>		ASTM D4798	

## US Flame, Smoke, Toxicity Testing

ASTM E 162  
ASTM E 662  
Boeing BSS 7239  
ASTM E 1354

## Electrical and Thermal Properties

**Dielectric Strength:** 668 to 689 V/mil

### Methods

ASTM D149

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## Handling/Application Information

### Application Techniques

All surfaces to be bonded must be clean from dust, oil, grease and any other contaminants that could interfere with sealing.

**Metal Surfaces:** For optimum corrosion protection the surface should be abrasive blast cleaned to NACE No. 2/SSPC-SP10 near white metal, ISO 8501:1, Sa2 1/2BS7079 Part A1 1989/ISO 8501-1:1998 – with a medium profile – 50 microns. If abrasive blasting is not possible surfaces should be prepared by mechanical wire brushing grinding or high pressure water jetting (typically 3500 psi) to achieve Swedish Standard St3 or equivalent, taking particular care when cleaning badly pitted parts.

**Previously Coated surfaces:** Any loose/flaking material must be removed. Surfaces should then be thoroughly cleaned and abraded.

**Application procedures:** Application should not be carried out at temperatures below 7°C (45°F) or when the relative humidity exceeds 85% or when the surface to be coated is less than 3 degrees above the dew point.

Product should be applied such that final dry film thickness is 350 microns (14 mils). It is easier to achieve a more uniform film if applied in two separate coatings. The first coat should be allowed to dry to the touch (approximately 60 minutes, depending on ambient conditions) prior to applying the second coat.

### Application Equipment

3M™ Water-Based Sprayable Protective Sealant 320 can be applied by brush, roller, or spray. For brush application, good quality, stiff-bristled brushes should be used. For roller application, medium-to-long pile rollers should be used.

For application by spray, suggested equipment includes a minimum 32:1 piston pump, 0.015”-0.019” airless spray tip, and 3000-3500 psi tip pressure. Spray equipment should be fitted with a 100 mesh inline fluid filter.

All equipment should be cleaned IMMEDIATELY after use by flushing with clean water. Dried deposits can be softened with 3MTM Citrus-Based Adhesive Remover.

### Storage and Shelf Life

Material is supplied in 5 and 20 liter units. Store in original sealed containers between 5°C (41°F) and 32°C (90°F). ALWAYS PROTECT FROM FREEZING DURING STORAGE AND USE.

When stored at recommended conditions, the shelf life of 5 liter and 20 liter units is 24 months of date of manufacture.

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## Information

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## Trademarks

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## References

### Safety Data Sheet (SDS)

[https://www.3m.com/3M/en\\_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en\\_US&co=ptn&q=320](https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=320)

### ISO Statement

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



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