



Water-Based Sprayable Protective Sealant 320

Technical Data

August, 2014

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.

- Features/Advantages**
- 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

Physical Properties **Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.**

Appearance	Smooth Paste
Color	Available in black, light gray, dark gray, and white
Touch Dry Time*	Approximately 1 hour
Hard Dry Time	24 hours
Minimum Time for Over-coating*	Approximately 1 hour
Maximum Time for Over-coating	Indefinite, provided surface is clean
Full Cure Time	14 days
Volume Solids	60%
VOC Content (As supplied)	3.9 g/l
Tensile Strength (ASTM D412)	420 psi
Elongation (ASTM D412)	250%

*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.

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Physical Properties

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Salt Spray Resistance at 350 micron coating thickness on grit blasted steel (ASTM B117)	> 1000 hrs (No blistering, no corrosion at scribe, no loss of adhesion)
UV Resistance (ASTM G53)	> 1000 hrs
Humidity Resistance (ASTM D2247)	> 1000 hrs (No blistering, no corrosion, no loss of adhesion)
Water Vapor Permeability (ASTM E96)	20 g.mm/m ² /24hr
Impact Resistance (ASTM D2444)	120 in.lb
Cold Weather Flexibility (ASTM D522)	Pass 1/2" mandrel at -25°C (-15°F)
Dielectric Strength (ASTM D149)	668-689 V/mil
Abrasion Resistance (ASTM 4060)	15 mg weight loss, CS16 wheel 500 g load, 1000 cycles
Accelerated Weathering (ASTM D4541)	> 1000 hrs
Adhesion to Aged 3003 Aluminum (D4798)	304 psi (2.1 MPa)
US Flame, Smoke, Toxicity Testing	ASTM E 162 ASTM E 662 Boeing BSS 7239 ASTM E 1354

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Application

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 Suggestions

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 3M™ Citrus-Based Adhesive Remover

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Storage

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.

Shelf Life

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

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.

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ISO 9001

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