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**TS Data Sheet 05280**  
**06580**  
**06586**

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## **3M™ Marine Adhesive Sealant Fast Cure 4000 UV**



### **3M Part No.(s)**

05280  
06580  
06586

### **3M Part Descriptor(s)**

3 Ounce Tube  
10 fl. oz. cartridge (295 ml)  
400 ml. Flex Pack

### **Description**

3M™ Marine Adhesive Sealant 4000 UV is a one-part adhesive sealant that cures to form a firm, rubbery waterproof seal. Its flexibility allows for the dissipation of stress caused by shock, vibration, swelling or shrinking. Designed for marine applications above and below the waterline. Its superior UV resistance properties makes this an ideal cosmetic adhesive sealant.

### **Features**

- Superior UV resistance
- Exceptional sealing properties
- <1% VOC's
- Low odor
- Non-shrinking
- Non-sagging
- Non-corrosive
- Non-cracking
- Caulkable at low temperatures (>40° F)
- Fast Curing
- Paintable (test for suitability)

### **Typical Physical Properties**

Container	10 fl. oz. cartridge (295 ml) 3 fl. oz. tube (90 ml) 400 ml Flex Pack (13.5 fl. oz.)
Base	Polyether
Density lbs/Gallon (Appx.)	11.7
Color	White
Consistency	Medium Paste
Service Temperature - °F	-40 to 190
Coverage (10 oz. cartridge)	1/8" bead = 120 lineal feet (36.6 m)

### **Product Uses**

3M Marine Adhesive Sealant 4000 UV may be used in typical bedding and sealing applications including

fiberglass deck to fiberglass hull, wood to fiberglass, porthole frames, deck fittings, moldings, thru hull and deck hardware.

**Performance Properties**

**Sag: <3/8" Bowing Flow**  
**Shore A Hardness: 38 - 39**

**180° Peel Strength** - One inch (2.54 cm) wide specimen on canvas. Tested at 70°F (21°C), 50% relative humidity.

<b>Substrate</b>	<b>Strength lbs/inch width</b>	<b>Failure Mode*</b>
Gelcoat	8.8	Cohesive
Fiberglass	8.2	Cohesive
Aluminum	5.3	Cohesive
Teak	8.7	Cohesive
Teak (primed)	8.0	Cohesive
Mahogany	9.4	Cohesive

**Overlap Shear Strength** - One inch (2.54 cm) overlap specimens (0.093 inch (0.2362 cm thickness)). Tested at 70°F (21°C), 50% relative humidity.

<b>Substrate</b>	<b>Strength psi (kg/cm<sup>2</sup>)</b>	<b>Failure Mode*</b>
<b>Woods:</b>		
Fir	226 (15.9)	40/60 (Coh/Adh)
Teak	174 (12.2)	40/60 (Coh/Adh)
Teak (primed)	196 (13.8)	40/60 (Coh/Adh)
<b>Metals:</b>		
Aluminum	329 (23.1)	Adhesive
<b>Plastics/Polymers:</b>		
Gelcoat	424 (29.8)	Cohesive
Fiberglass	251 (17.6)	Cohesive
ABS	279 (19.6)	40/60 (Coh/Adh)

\*Desirable failure mode is cohesive.

**Heat Resistance** - One inch (2.54 cm) overlap specimens (0.093 inch (0.2362 cm thickness). **Aged 500 hrs. @ 190 °F.** Tested at 70°F (21°C), 50% relative humidity.

Substrate	Strength psi (kg/cm <sup>2</sup> )	Failure Mode*
<b>Woods:</b>		
Fir	213 (15.0)	55/45 (Coh/Adh)
Teak	162 (11.4)	85/25 (Coh/Adh)
Teak (primed)	232 (16.3)	Cohesive
<b>Metals:</b>		
Aluminum	313 (22.0)	Cohesive
<b>Plastics/Polymers:</b>		
Gelcoat	360 (25.3)	Cohesive
Fiberglass	244 (17.2)	Cohesive

**Tensile & Elongation Test** - A 1/8 inch (0.3175 cm) dumbbell specimen with a 1/8 inch (0.3175 cm) square cross section was tested at 2.0 inches/minute (5.08 cm/minute).

Relative Humidity	Temperature	Tensile Strength psi (kg/cm <sup>2</sup> )	Elongation (%)
50%	70°F (21°C)	253 (17.8)	790

**UV Resistance** - ASTM references: D412 & G-26 Type B,BH

Hours	Appearance	Tensile Strength psi (kg/cm <sup>2</sup> )	Elongation (%)
500	No Chalking	306 (21.5)	804

1000	Slight Chalking	299 (21.0)	723
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**Environmental Submersion Exposure Tests:**

**Overlap Shear Strength** - One inch (2.54 cm) overlap specimens (0.093 inch (0.2362 cm thickness). Tested at 70°F (21°C), 50% relative humidity.

Substrate	Initial Strength psi (kg/cm <sup>2</sup> )	Failure Mode	Salt Water Immersion 500 hrs. psi (kg/cm <sup>2</sup> )	Failure Mode
<b>Plastics/Polymers:</b>				
Gelcoat	424 (29.8)	95/5 (Coh/Adh)	359 (25.2)	Cohesive
Fiberglass	251(17.6)	Cohesive	284 (20.0)	Cohesive
Nylon 66	311 (21.9)	50/50 (Coh/Adh)	135 (9.5)	25/75 (Coh/Adh)
<b>Metals:</b>				
Stainless Steel	584 (41.1)	95/5 (Coh/Adh)	675 (47.5)	Cohesive
Bronze	590 (41.5)	90/10 (Coh/Adh)	542 (38.1)	Cohesive
Copper	509 (35.8)	Cohesive	457 (32.1)	75/25 (Coh/Adh)
Aluminum	329 (23.1)	5/95 (Coh/Adh)	381 (26.8)	55/45 (Coh/Adh)

## Application Information

### Directions for Use

**Application Temperature : 40° F - 100° F**

#### 1. Surface Preparation

Surface should be clean, dry and free of contaminants. New surfaces should be solvent wiped with 3M<sup>TM</sup> General Purpose Adhesive Cleaner, P.N. 08984\*, or equivalent. Other than new surfaces should be sanded with a fine grade abrasive to enhance bond strength.

#### 2. Sealing and bedding application

Apply 3M<sup>TM</sup> Marine Adhesive Sealant 4000 UV to the seam or part to be bonded. Position parts. Tool and squeeze out material to desired appearance. Remove excess with 3M<sup>TM</sup> General Purpose Adhesive

Cleaner, P.N. 08984\*.

### 3. Cleanup

For cleaning 3M™ Marine Adhesive Sealant 4000 UV before it is cured, use a dry cloth to remove the majority, followed by a cloth damp with 3M™ General Purpose Adhesive Cleaner, toluene, acetone, or other good cleaning solvent\*.

Cured 3M™ Marine Adhesive Sealant 4000 UV can be removed mechanically with a knife, razor blade, piano wire or by sanding.

**\* When using solvents, extinguish all sources of ignition in the immediate work area and observe proper precautionary measures for handling such materials.**

#### Cure:

Cure	Relative Humidity	Temperature	Time	Cure Depth
Tack Free	50%	70°F (21°C)	22 Min.	N/A
Full Cure	50%	70°F (21°C)	24 hours	1/8 inch (0.3175 cm)

**\* Higher temperature and humidity conditions will accelerate the tack free time and cure. Please plan accordingly.**

### Applications

Typical Marine Adhesive Sealant Applications

Portlights	Wood
Hatches	Teak
Thru-hulls	Fiberglass
Rails	Gelcoat
Metal Hardware	Porthole Frames
Moldings	

### Storage and Handling

**Recommended Storage Temperature Range: 60 F to 80 F**

**Expected Shelf Life at Recommended Storage Temperature: 12 Months**

### Precautionary Information

Refer to Product Label and Material Safety Data Sheet for Health and Safety Information before using this product.

### Country

US

**This document is public. It may be distributed.**

### Important Notice to Purchaser

**Technical Data:** All physical properties, statements and recommendations are either based on tests we believe to be reliable or our experience, but they are not guaranteed. 3M recommends

each user determine the suitability of the products for the intended use.

\* If 'Directions for Use' reference P.N.'s 08984, 08986, or 08987, please read. Federal and local air quality regulations may regulate or prohibit the use of surface preparation and cleanup solvents based on VOC content. Consult your local and Federal air quality regulations for information. When using solvents, use in a well ventilated area. Extinguish all sources of ignition in the work area and observe precautionary measures for handling these materials. Refer to product label and MSDS for P.N. 8984, 8986, or 8987 for detailed precautionary information.

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#### **For Additional Health and Safety Information**

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