



# Technical Data Sheet

## 3M™ Marine Adhesive Sealant 5200

### **Product Description**

3M™ Marine Adhesive Sealant 5200 is a one-part polyurethane that chemically reacts with moisture to deliver strong, flexible bonds. It has excellent adhesion to wood, gelcoat, and fiberglass. It forms a watertight, weather-resistant seal on joints and boat hardware, above and below the waterline. In addition, its flexibility allows for dissipation of stress caused by shock, vibration, swelling or shrinking.

### **Product Features**

- Tough/flexible polyurethane polymer
- One component, moisture curing
- Long working time
- Bonds dissimilar materials
- Non-shrinking
- Adheres to a wide variety of substrates

### **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**

| Attribute Name | Value                    |
|----------------|--------------------------|
| Density        | 11.3 lb/gal              |
| Consistency    | Caulkable, non-sag paste |

### **Typical Mixed Physical Properties**

Temperature: 23 °C

| Attribute Name | Environmental Condition | Value    |
|----------------|-------------------------|----------|
| Tack Free Time |                         | 12 h     |
| Tack Free Time | 90%RH                   | 4 h      |
| Rate of Cure   |                         | 3 mm/5 d |

### **Typical Physical Properties**

| Attribute Name           | Value    |
|--------------------------|----------|
| Color                    | White    |
|                          | Black    |
|                          | Mahogany |
| Solids Content by Weight | 97 %     |

## Typical Cured Characteristics

| Attribute Name   | Test Method | Value |
|------------------|-------------|-------|
| Shore A Hardness | ASTM C661   | 68    |

## Typical Performance Characteristics

### Overlap Shear Strength

Temperature: 23 °C

| Substrate                | Value                               |
|--------------------------|-------------------------------------|
| Teak                     | 35 kg/cm <sup>2</sup> <sup>1</sup>  |
| Pine                     | 48 kg/cm <sup>2</sup> <sup>1</sup>  |
| Oak                      | 39 kg/cm <sup>2</sup> <sup>1</sup>  |
| Maple                    | 46 kg/cm <sup>2</sup> <sup>1</sup>  |
| Fir                      | 49 kg/cm <sup>2</sup> <sup>1</sup>  |
| Mahogany                 | 40 kg/cm <sup>2</sup> <sup>1</sup>  |
| Stainless Steel          | 25 kg/cm <sup>2</sup> <sup>1</sup>  |
| Aluminum                 | 28 kg/cm <sup>2</sup> <sup>1</sup>  |
| Brass                    | 33 kg/cm <sup>2</sup> <sup>1</sup>  |
| Bronze                   | 18 kg/cm <sup>2</sup> <sup>1</sup>  |
| Copper                   | 14 kg/cm <sup>2</sup> <sup>1</sup>  |
| Lead                     | 7.5 kg/cm <sup>2</sup> <sup>1</sup> |
| Zinc (Galvanized)        | 34 kg/cm <sup>2</sup> <sup>1</sup>  |
| Acrylic (PMMA)           | 15 kg/cm <sup>2</sup> <sup>1</sup>  |
| Nylon                    | 12 kg/cm <sup>2</sup> <sup>1</sup>  |
| ABS                      | 16 kg/cm <sup>2</sup> <sup>1</sup>  |
| Cold Rolled Steel        | 38 kg/cm <sup>2</sup> <sup>1</sup>  |
| Polycarbonate (PC)       | 27 kg/cm <sup>2</sup> <sup>1</sup>  |
| Fiber-Reinforced Plastic | 26 kg/cm <sup>2</sup> <sup>1</sup>  |

<sup>1</sup> 25 mm (1 in) overlap specimens 2.4 mm (0.093 in) thick.  
 Cohesive - Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode.  
 Adhesive Failure - Adhesive/Sealant releases from substrate.

| Attribute Name                           | Test Method | Value               |
|--|-------------|---------------------|
| Long Term Temperature Resistance         |             | 90 °C <sup>1</sup>  |
| Minimum Long Term Temperature Resistance |             | -40 °C <sup>1</sup> |
| Tensile Strength                         | ASTM D412   | 4.8 MPa             |

<sup>1</sup> Long Term (day, weeks)

## **Handling/Application Information**

### **Directions for Use**

#### **Surface Preparation:**

There are waxes, coatings, sealers, greases, oils and other contaminants used in the marine industry, making it very important to clean all surfaces to be bonded before applying 3MTM Adhesive Sealant 5200. Recommended procedures include cleaning with 3MTM General Purpose Adhesive Cleaner\* 08984. Abrading the surface with 180- to 200-grit abrasive before cleaning will enhance the bond strength.

Cut the plastic nozzle tip to the desired bead size. Puncture the seal in nozzle end of the cartridge and screw the plastic nozzle in place. Remove the bottom end seal of cartridge and place the cartridge in a caulk gun dispenser. Apply 5200 to the seam or part to be bonded. Position parts and tool material to desired appearance. Tooling of adhesive can be accomplished by using a tongue depressor. If a finger is used, rubber gloves are recommended. Remove excess with General Purpose Adhesive Cleaner 08984 or suitable solvent.

\*When using solvents, use in a well ventilated area. Extinguish all sources of ignition in the work area and observe product directions for use and precautionary measures. Refer to product label and MSDS for further precautions. Always pre-test solvent to ensure it is compatible with substrates.

Local and federal air quality regulations may regulate or prohibit the use of these products or surface preparation and cleanup materials. Consult local and federal air quality regulations before using these products.

**Note:**Alcohol will interfere with the curing process and extra care must be taken when using alcohol as a cleaning solvent to prevent any contact with the sealant.

#### **Primer:**

Use of a primer is an extra step and cost and will depend on the final end use. Using primer can improve the corrosion resistance of certain metals as well as improve the durability of the bond when exposed to high humidity conditions. Pre-testing for adhesion is suggested to determine if a primer is needed. Contact your 3M Technical Service representative for primer recommendation and application advice.

#### **Applications:**

##### **Applications:**

3MTM Adhesive Sealant 5200 is for permanent assembly of wood and fiberglass parts bonded together. If a non-permanent bond is desired, use 3MTM Marine Adhesive Sealant 4200.

#### **Typical bonding applications include:**

- Fiberglass deck to fiberglass hull
- Wood to fiberglass
- Portholes
- Deck fittings
- Moldings
- Trunk joints
- Between struts and planking
- Stern joints

#### **Typical sealing applications include:**

- Some plastics (test before assembly)
- Glass
- Metals (priming may be required)

#### **Limitations :**

- Alcohol should not be used in preparation for bonding as it will interfere with the curing process, causing the adhesive to fail.
- Due to the decreased value in bond strength at elevated temperatures, use of this product is not recommended above 190°F (88°C).
- Do not apply at temperatures below 40°F (4°C) or on frost covered surfaces. Do not apply at surface temperatures above 100°F (38°C).
- Sealant should be used within 24 hours after inner seal is punctured, as product will start to cure in the cartridge and nozzle.
- At 90o F (32o C) and 90% relative humidity, bonds should be made within 15 minutes.
- Some one-part solvent-based Marine paints may not cure on top of cured 5200. It is strongly recommended to test all desired paints for suitability.
- 5200 has an elongation much greater than most paints. Most paints will not elongate to this extent before cracking or losing adhesion to the sealant. If the sealant is used in an application where it will elongate or flex to a high degree, it is best not to paint.
- 5200 is not recommended for use as a teak deck seam sealer. Extended exposure to chemicals (teak cleaners, oxalic acid, gasoline, strong solvents and other harsh chemicals) may cause permanent softening of the sealant.
- 5200 is not recommended for the installation of glass, polycarbonate, or acrylic windows that are not also mechanically fastened. Inconsistent adhesion of these unprimed substrates, specific design of the window and movement due to thermal expansion and flexing may cause application failure. Contact a Technical Service Engineer for help with these applications.
- When using 3MTM Marine Adhesive Sealant 5200 with metals it may be necessary to prime the surface to achieve adequate adhesion and durability of the bond. 3M Metal Primer P592 may be used for priming of most metals.

**Cleanup:**

For cleaning 3MTM Marine Adhesive Sealant 5200 before it is cured, use a dry cloth to remove the majority of sealant, followed by a cloth damp with 3MTM General Purpose Adhesive Cleaner 08984. Cured material can be removed mechanically with a knife, razor blade, piano wire, or sanding device.

**Storage and Shelf Life**

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original packaging, out of direct sunlight. For best performance, use this product within 24 months from date of manufacture.

**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

**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.

**Information**

Precautionary Information: Refer to product label and Material Safety Data Sheet for health and safety information before using the product. For information, please contact your local 3M Office. You can click or scan QR code to see contact detail or visit [www.3M.com](http://www.3M.com) Important Information: All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method or application. All questions of liability relating to this product are governed by the terms of the sale subject, where applicable, to the prevailing law. Values presented have been determined by standard test methods and are average values not to be used for specification purposes. Our recommendations on the use of our products are based on tests believed to be reliable but we would ask that you conduct your own tests to determine their suitability for your applications. This is because 3M cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our recommendations.

**ISO Statement**

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

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