English-US

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Technical Data Sheet

3M™ Marine Adhesive/Sealant 5200 (Tan)

Product Details

Regulatory Info/SDS

Product Description

3M™ Marine Adhesive/Sealant 5200 (Tan) is a one-part polyurethane that chemically reacts with moisture to deliver strong, flexible bonds. It has excellent adhesion to wood gel coat 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.
- Non-shrinking.
- One-part moisture cure.
- Long working time.

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	11.1 lb/gal
Consistency	Medium Paste
Base	Polyurethane

Typical Physical Properties

Attribute Name	Value
Color	Tan
Solids Content by Weight	99 %
Product Construction	06501 - 10 fl. oz. cartridge (295 ml) 21450 - 5 gal. pail (18.93 L)
Approximate Coverage	36.6 lineal m (120 LF) [1]

[1] 10.5 oz. [310 mm Cartridge]; 1/8 in (3 mm) bead

Typical Cured Characteristics

Attribute Name	Test Method	Value
Shore A Hardness	ASTM C661	58

Typical Performance Characteristics

Overlap Shear Strength

Temperature: 23 °C (73 °F)

Substrate	Value
Teak	35.1 kg/cm² (499 lb/in²) [1]
Pine	48.1 kg/cm² (684 lb/in²) [1]
Oak	45.1 kg/cm² (642 lb/in²) [1]

Substrate	Value
Maple	49.6 kg/cm² (706 lb/in²) [1]
Fir	41.4 kg/cm² (589 lb/in²) [1]
Mahogany	41 kg/cm² (583 lb/in²) [1]
Steel	26.8 kg/cm² (381 lb/in²) [1]
Stainless Steel	14.3 kg/cm² (203 lb/in²) [1]
Aluminum	12.2 kg/cm² (173 lb/in²) [1]
Brass	12.7 kg/cm² (181 lb/in²) [1]
Bronze	14.3 kg/cm² (203 lb/in²) [1]
Copper	15 kg/cm² (214 lb/in²) [1]
Lead	5.2 kg/cm² (74 lb/in²) [1]
Zinc (Galvanized)	15 kg/cm² (213 lb/in²) [1]
Fiberglass	26.4 kg/cm² (376 lb/in²) [1]
Gelcoat	27.3 kg/cm² (388 lb/in²) [1]
Acrylic (PMMA)	11.9 kg/cm² (169 lb/in²) [1]
Nylon	8.7 kg/cm² (124 lb/in²) [1]
ABS	17.4 kg/cm² (248 lb/in²) [1]
Polypropylene (PP)	5.4 kg/cm² (77 lb/in²) [1]
Polyethylene (PE)	3.4 kg/cm² (48 lb/in²) [1]

[1] 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	Temperature	Value
Long Term Temperature Resistance		90 °C (190 °F) [1]
Minimum Long Term Temperature Resistance		-40 °C (-40 °F) [1]
Elongation		645 % [2]
Tensile Strength	23 °C (73 °F)	62.2 kg/cm² (885 lb/in²) [2]

[1] Long Term (day, weeks)

[2] A 3.2 mm (1/8 in) dumbbell specimen with a 3.2 mm (1/8 in) square cross section was tested at 51 mm/min (2 in/min)

Handling/Application Information

Directions for Use

Surface Preparation:
There are waxes, coatings, sealants, grease, oil and other contaminants used in the marine industry, making it very important to clean all surfaces to be bonded before applying 3M™ Marine Adhesive/Sealant 5200. Recommended procedures include cleaning with 3M™ General Purpose Adhesive Cleaner 08984.*

Application of Adhesive Sealant:
Abrading the surfaces with a 180 grit to 220 grit abrasive, and subsequently wiping off residue, will enhance the bond strength. Cut tip of the nozzle to desired bead size. Puncture seal inside the threaded nozzle end and screw on nozzle. If using a 10 fl. oz. cartridge, remove the bottom and seal and place the cartridge in a caulk gun. Apply 3M marine adhesive/sealant 5200 to the seam or part to be bonded.
Position parts. Tool material to desired appearance. Remove excess material with 3M general purpose adhesive cleaner 08984.*

Cure:

Cure	Relative Humidity	Temperature	Time	Cure Depth
Open Time	50%	70°F (21°C)	5 hours	N/A
Open Time	90%	90°F (32°C)	1.5 hours	N/A
Full Cure	50%	70°F (21°C)	2 days	1/8 inch (0.3175 cm)

Cleanup:
For cleaning 3M marine adhesive/sealant 5200 before it is cured, use a dry cloth to remove the majority of sealant, followed by a cloth damp with 3M general purpose adhesive cleaner 08984,* toluene or acetone. Cured 3M marine adhesive/sealant 5200 can be removed mechanically with a knife, razor blade, piano wire or sanding.
*Note: When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer's precautions and directions for use.

Limitations:
- Alcohol should not be used in preparation for bonding as it will stop the curing process.
- If painting on top of the sealant, always test to make sure there are no incompatibilities between the paint and the 3M marine adhesive/sealant 5200. Paints almost always crack on top of the sealant due to flexing in the joint.
- Heat resistance - Due to the decreased value in bond strength at elevated temperatures, we do not recommend use of this product 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).
- 3M marine adhesive/sealant 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.
- 3M™ Marine Adhesive/Sealant 5200 is not recommended for the installation of glass, polycarbonate or acrylic windows that are not also mechanically fastened with a system designed by the manufacturer. Inconsistent adhesion of these unprimed substrates, specific design of the window, and movement due to thermal expansion and flexing, may cause application failure. It is strongly recommended that the customer contact the window/port light/hatch manufacturer for recommendations on proper sealing procedures.
- When using 3M marine adhesive/sealant 5200 with metals, it may be necessary to prime the surface to achieve adequate adhesion and durability of the bond. 3M™ Scotch-Weld™ Structural Adhesive Primer EC-1945 B/A may be used for priming of most metals.

Application Examples

Typical bonding and sealing applications include:
- Fiberglass deck to fiberglass hull
- Wood to fiberglass
- Porthole frames
- Deck fittings
- Moldings
- Trunk joints
- Between struts and planking
- Stern joints and hull planking

Sealing of:
- Some plastics (test before assembly)
- Glass
- Metals

Structural bonding and sealing of:
- Wood
- Fiberglass
- Gel coat
- Primed metal

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, unopened packaging, out of direct sunlight. Lower temperatures cause increased viscosity of a temporary nature. 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.

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ISO Statement

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

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