

Technical Data Sheet

3M™ Marine Adhesive Sealant 5200 Fast Cure:

Product Description

A fast curing, one-part polyurethane that chemically reacts with moisture to deliver strong, flexible bonds to wood, gelcoat and fiberglass. It forms watertight, weather-resistant seals 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
- Fast cure formula
- Bonds dissimilar materials
- Non-shrinking
- Adheres to a wide variety of substrates
- Non-sagging
- Permanently elastic

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 Physical Properties

Property	Values	Additional Information
Solids Content by Weight	97 %	

Color	White
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Typical Uncured Physical Properties

Property	Values	Additional Information
Density	11 lb/gal	

Consistency	Caulkable, non-sag paste
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Typical Mixed Physical Properties

Property	Values	Additional Information
Tack Free Time	1 hr	View 
Test Condition: Room Temperature		
Rate of Cure	1 to 8 in per 24 hr	View 
Test Condition: Room Temperature		
Rate of Cure	3 mm per 24 hr	View 
Test Condition: Room Temperature		

Typical Cured Characteristics

Property	Values	Additional Information
Shore A Hardness	60	View 
Test Method: ASTM C661		

Typical Performance Characteristics

Property	Values	Additional Information
Tensile Strength	6.9 MPa	View 
Test Method: ASTM D412		
Tensile Strength	1000 lb/in²	View 
Test Method: ASTM D412		
Elongation at Break	>800 %	View 
Test Method: ASTM D412		
Long Term Temp C	90 °C	View 
Test Condition: Long Term (day, weeks)		
Minimum Long Term Temperature Resistance	-40 °C	View 
Test Condition: Long Term (day, weeks)		
Long Term Temp F	190 °F	View 
Test Condition: Long Term (day, weeks)		
Minimum Long Term Temperature Resistance	-40 °F	

View

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Test Condition: Long Term (day, weeks)

Overlap Shear Strength	25 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: Teak Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	350 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: Teak Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	35 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: Pine Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	500 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: Pine Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	35 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: Oak Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	500 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: Oak Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	35 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: Maple Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	500 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: Maple Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	42 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: Fir Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	600 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: Fir Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	28 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: Mahogany Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	400 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: Mahogany Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	14 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: Stainless Steel Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	200 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: Stainless Steel Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	14 kg/cm²	View	^
Temp C: 23C Temp F: 72F			

Substrate: Aluminum

Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.

Overlap Shear Strength	200 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: Aluminum Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			
Overlap Shear Strength	12 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: Brass Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			
Overlap Shear Strength	175 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: Brass Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			
Overlap Shear Strength	12 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: Bronze Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			
Overlap Shear Strength	175 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: Bronze Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			
Overlap Shear Strength	12 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: Copper Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			
Overlap Shear Strength	175 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: Copper Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	10 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: Lead Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	150 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: Lead Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	18 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: Zinc (Galvanized) Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	250 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: Zinc (Galvanized) Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	10 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: Acrylic (PMMA) Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	150 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: Acrylic (PMMA) Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	9 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: Nylon Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Overlap Shear Strength	125 lb/in²	View	^
Temp C: 23C Temp F: 72F			

Substrate: Nylon

Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.

Overlap Shear Strength	18 kg/cm²	View	^
Temp C: 23C Temp F: 72F Substrate: ABS Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			
Overlap Shear Strength	250 lb/in²	View	^
Temp C: 23C Temp F: 72F Substrate: ABS Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			
Overlap Shear Strength	21 kg/cm²	View	^
Test Condition: Room Temperature Substrate: Cold Rolled Steel Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			
Overlap Shear Strength	300 lb/in²	View	^
Test Condition: Room Temperature Substrate: Cold Rolled Steel Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			
Overlap Shear Strength	28 kg/cm²	View	^
Test Condition: Room Temperature Substrate: Polycarbonate (PC) Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			
Overlap Shear Strength	400 lb/in²	View	^
Test Condition: Room Temperature Substrate: Polycarbonate (PC) Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			
Overlap Shear Strength	21 kg/cm²	View	^
Test Condition: Room Temperature Substrate: Fiber-Reinforced Plastic Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			
Overlap Shear Strength	300 lb/in²	View	^

Test Condition: Room Temperature

Substrate: Fiber-Reinforced Plastic

Notes: 1in overlap specimens 0.093in thick. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. Desired failure mode. Adhesive Failure – Adhesive/Sealant releases from substrate.

Storage and Shelf Life

Polyurethane sealants and adhesive sealants must be stored in a controlled environment to maximize shelf life. Store the products in the original unopened containers below 77°F (25C).

When stored at the recommended conditions in the original, unopened container this product has a shelf life of 24 months from date of manufacture.

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.

Bottom Matter

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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 Fast Cure. 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 Fast Cure 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:

3MTM Adhesive Sealant 5200 Fast Cure 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 90° F (32° 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 Fast Cure. It is strongly recommended to test all desired paints for suitability.
- 5200 Fast Cure 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 Fast Cure 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 Fast Cure 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 Fast Cure 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 Fast Cure 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.

References

Property	Values
3m.com Product Page	https://www.3m.com/3M/en_US/p/d/b40066996/
Safety Data Sheet SDS	https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=5200FC

Family Group

Link Tags:

- 5200FC

Products	Color	Rate of Cure	Shore A Hardness	Minimum Long Term Temperature Resistance
5200FC	White	3 mm per 24 hr	60	-40 °C

ISO Statement

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

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 or (651) 737-6501.

Information

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