

# Technical Data Sheet

## 3M™ Marine Grade Silicone Sealant:

### Product Description

A mildew resistant, non-sagging, moisture curingSilicone Rubber sealant for above the waterline applications which remains flexible with excellent resistance to the marine environment. Adheres to bare and painted metal, glass, fiberglass, non-oily woods and many plastics and abraded rubber.

### Product Features

- Mildew resistant
- One component cure
- Flexible polymer
- Excellent weathering resistance
- Non-shrinking
- High temperature resistant
- 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	100 %	




Color	White Clear	
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### Typical Uncured Physical Properties


Property	Values	Additional Information
Density	8.7 lb/gal	

Consistency	Caulkable, non-sag paste	
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### Typical Mixed Physical Properties

Property	Values	Additional Information
Tack Free Time	5 to 10 min	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	20	View 
Test Method: ASTM C661		

Typical Performance Characteristics

Property	Values	Additional Information
180° Peel Adhesion	128 oz/in	View 
Substrate: Aluminum Failure Mode: Adhesive  Notes: One inch (2.54 cm) wide specimens on canvas. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. This is the desired mode. Adhesive Failure – Adhesive/Sealant releases from substrate.		
180° Peel Adhesion	96 oz/in	View 
Substrate: Mahogany Failure Mode: Adhesive  Notes: One inch (2.54 cm) wide specimens on canvas. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. This is the desired mode. Adhesive Failure – Adhesive/Sealant releases from substrate.		
180° Peel Adhesion	112 oz/in	View 
Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Pine Failure Mode: Adhesive  Notes: One inch (2.54 cm) wide specimens on canvas. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. This is the desired mode. Adhesive Failure – Adhesive/Sealant releases from substrate.		
180° Peel Adhesion	112 oz/in	View 
Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Oak		

Failure Mode: Adhesive

Notes: One inch (2.54 cm) wide specimens on canvas. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. This is the desired mode.  
Adhesive Failure – Adhesive/Sealant releases from substrate.

180° Peel Adhesion	0 oz/in	View	^
Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Acrylic (PMMA) Failure Mode: Adhesive  Notes: One inch (2.54 cm) wide specimens on canvas. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. This is the desired mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

180° Peel Adhesion	0 oz/in	View	^
Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Polycarbonate (PC) Failure Mode: Adhesive  Notes: One inch (2.54 cm) wide specimens on canvas. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. This is the desired mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

180° Peel Adhesion	16 oz/in	View	^
Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Fiber-Reinforced Plastic Failure Mode: Adhesive  Notes: One inch (2.54 cm) wide specimens on canvas. Cohesive – Adhesive/Sealant fails before adhesive/sealant releases from substrate. This is the desired mode. Adhesive Failure – Adhesive/Sealant releases from substrate.			

Tensile Strength	1.5 MPa	View	^
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Test Method: ASTM D412

Tensile Strength	220 lb/in²	View	^
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Test Method: ASTM D412

Elongation at Break	>350 %	View	^
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Test Method: ASTM D412

Long Term Temp C	90 °C	View	^
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Test Condition: Long Term (day, weeks)

Minimum Long Term Temperature Resistance	-40 °C	View	^
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Test Condition: Long Term (day, weeks)

Long Term Temp F	190 °F	View	^
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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	2.1 kg/cm²	View	^
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Temp C: 23C  
Temp F: 72F  
Substrate: Teak  
Failure Mode: Adhesive

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	30 lb/in²	View	^
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Temp C: 23C  
Temp F: 72F  
Substrate: Teak  
Failure Mode: Adhesive

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	4.2 kg/cm²	View	^
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Temp C: 23C  
Temp F: 72F  
Substrate: Pine  
Failure Mode: Adhesive

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	60 lb/in²	View	^
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Temp C: 23C  
Temp F: 72F  
Substrate: Pine  
Failure Mode: Adhesive

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	4.9 kg/cm²	View	^
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Temp C: 23C  
Temp F: 72F  
Substrate: Oak  
Failure Mode: Adhesive

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	70 lb/in²	View	^
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Temp C: 23C  
Temp F: 72F  
Substrate: Oak  
Failure Mode: Adhesive


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	3.5 kg/cm²	View	^
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Temp C: 23C  
Temp F: 72F  
Substrate: Maple  
Failure Mode: Adhesive


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	50 lb/in²	View 
Temp C: 23C Temp F: 72F Substrate: Maple Failure Mode: Adhesive  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	3.5 kg/cm²	View 
Temp C: 23C Temp F: 72F Substrate: Fir Failure Mode: Cohesive  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	50 lb/in²	View 
Temp C: 23C Temp F: 72F Substrate: Fir Failure Mode: Cohesive  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	{3.5Adhesive} 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	50 lb/in²	View 
Temp C: 23C Temp F: 72F Substrate: Mahogany Failure Mode: Adhesive  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	4.2 kg/cm²	View 
Temp C: 23C Temp F: 72F Substrate: Stainless Steel Failure Mode: Adhesive  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	60 lb/in²	View 
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Temp C: 23C  
Temp F: 72F  
Substrate: Stainless Steel  
Failure Mode: Adhesive


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	4.9 kg/cm²	View 
Temp C: 23C Temp F: 72F Substrate: Aluminum Failure Mode: Adhesive  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	70 lb/in²	View 
Temp C: 23C Temp F: 72F Substrate: Aluminum Failure Mode: Adhesive  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	0.7 kg/cm²	View 
Temp C: 23C Temp F: 72F Substrate: Acrylic (PMMA) Failure Mode: Adhesive  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 lb/in²	View 
Temp C: 23C Temp F: 72F Substrate: Acrylic (PMMA) Failure Mode: Adhesive  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	6.3 kg/cm²	View 
Temp C: 23C Temp F: 72F Substrate: ABS Failure Mode: Cohesive  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	90 lb/in²	View 
Temp C: 23C Temp F: 72F Substrate: ABS Failure Mode: Cohesive  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	1.7 kg/cm²	View 
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Test Condition: Room Temperature  
Substrate: Polycarbonate (PC)  
Failure Mode: Cohesive


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	25 lb/in²	View 
Test Condition: Room Temperature Substrate: Polycarbonate (PC) Failure Mode: Cohesive  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	6.3 kg/cm²	View 
Test Condition: Room Temperature Substrate: Fiber-Reinforced Plastic Failure Mode: Cohesive  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	90 lb/in²	View 
Test Condition: Room Temperature Substrate: Fiber-Reinforced Plastic Failure Mode: Cohesive  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	4.2 kg/cm²	View 
Test Condition: Room Temperature Substrate: Glass Failure Mode: Cohesive  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	60 lb/in²	View 
Test Condition: Room Temperature Substrate: Glass  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

Store the product in the original unopened containers between 60°F (15C) and 80°F (27C).  
When stored at recommended conditions, the shelf life of cartridges and sausage packs is 36 months from the date of manufacture.

## Automotive Disclaimer

Automotive Applications: This product is an industrial product and has not been designed or tested for use in certain automotive applications, including, but not limited to, automotive electric powertrain battery or high voltage applications. This product does not fully adhere to typical automotive design or quality system requirements, such as IATF 16949 or VDA 6.3. This product may not be manufactured in an IATF certified facility and may not meet a Ppk of 1.33 for all properties. The product may not undergo an automotive production part approval process (PPAP). Customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer’s automotive application and for conducting incoming inspections before use of the product. Failure to do so may result in injury, death, and/or harm to property. No written or verbal statement, report, data or recommendation by 3M related to automotive use of the product shall have any force or effect unless in an agreement signed by the Technical Director of 3M’s Automotive Division. Customer assumes all responsibility and risk if customer chooses to use this product in an automotive electric powertrain battery or high voltage application, and 3M will not be liable for any loss or damage arising from or related to the 3M product or customer’s use of the product,

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## Bottom Matter

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3M  
Industrial Adhesives and Tapes Division  
3M Center, Building 225-3S-06  
St. Paul, MN 55144-1000  
800-362-3550

## Trademarks

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3M and Scotch-Brite are trademarks of 3M Company.

## Handling/Application Information

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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 before applying 3MTM Marine Grade Silicone Sealant. 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 Marine Grade Silicone Sealant on the part to be sealed or 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 Marine Grade Silicone Sealant is an excellent sealant for above the waterline applications sealing woods, plastics, or metals used in the marine industry. If a permanent or semi-permanent bond is desired, use 3MTM Marine Adhesive Sealant 5200 or 3MTM Marine Adhesive Sealant 4200.

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.
- Cannot be painted.
- Marine Grade Silicone Sealant 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.



- Marine Grade Silicone Sealant is not recommended for the installation of glass, polycarbonate, or acrylic windows that are not also mechanically fastened.
- Do not use with electronic circuitry. Acetic acid liberated during cure may corrode electronic circuitry.

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	<a href="https://www.3m.com/3M/en_US/p/d/b40066965/">https://www.3m.com/3M/en_US/p/d/b40066965/</a>
Safety Data Sheet SDS	<a href="https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&amp;msdsLocale=en_US&amp;co=ptn&amp;q=Marine Grade Silicone Sealant">https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&amp;msdsLocale=en_US&amp;co=ptn&amp;q=Marine Grade Silicone Sealant</a>

## 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

**Technical Information:** The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

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