English-US

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Technical Data Sheet

3M™ Marine Grade Silicone Sealant

Product Details

Regulatory Info/SDS

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 Uncured Physical Properties

Attribute Name	Value
Density	1
Consistency	Caulkable, non-sag paste

Typical Mixed Physical Properties

Temperature: 23 °C (73 °F)

Attribute Name	Value
Tack Free Time	5 — 10 min
Rate of Cure	3 mm/24 h (1 — 8 in/24 h)

Typical Physical Properties

Attribute Name	Value
Color	White Clear
Solids Content by Weight	100 %

Typical Cured Characteristics

Attribute Name	Test Method	Value
Shore A Hardness	ASTM C661	20

Typical Performance Characteristics

180° Peel Adhesion

Temperature: 23 °C (73 °F)

Substrate	Value
Acrylic (PMMA)	0 N/cm (0 oz/in) (Adhesive) [1]
Aluminum	14 N/cm (128 oz/in) (Adhesive) [1]
Fiber-Reinforced Plastic	1.8 N/cm (16 oz/in) (Adhesive) [1]
Mahogany	10.5 N/cm (96 oz/in) (Adhesive) [1]
Oak	12.2 N/cm (112 oz/in) (Adhesive) [1]
Pine	12.2 N/cm (112 oz/in) (Adhesive) [1]
Polycarbonate (PC)	0 N/cm (0 oz/in) (Adhesive) [1]

[1] 25 mm (1 in) 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.

Overlap Shear Strength

Temperature: 23 °C (73 °F)

Substrate	Value
Teak	2.1 kg/cm² (30 lb/in²) (Adhesive) [1]
Pine	4.2 kg/cm² (60 lb/in²) (Adhesive) [1]
Oak	4.9 kg/cm² (70 lb/in²) (Adhesive) [1]
Maple	3.5 kg/cm² (50 lb/in²) (Adhesive) [1]
Fir	3.5 kg/cm² (50 lb/in²) (Cohesive) [1]
Mahogany	3.5 kg/cm² (50 lb/in²) (Adhesive) [1]
Stainless Steel	4.2 kg/cm² (60 lb/in²) (Adhesive) [1]
Aluminum	4.9 kg/cm² (70 lb/in²) (Adhesive) [1]
Acrylic (PMMA)	0.7 kg/cm² (10 lb/in²) (Adhesive) [1]
ABS	6.3 kg/cm² (90 lb/in²) (Cohesive) [1]
Polycarbonate (PC)	1.7 kg/cm² (25 lb/in²) (Cohesive) [1]
Fiber-Reinforced Plastic	6.3 kg/cm² (90 lb/in²) (Cohesive) [1]
Glass	4.2 kg/cm² (60 lb/in²) (Cohesive) [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	Test Method	Value
Long Term Temperature Resistance		90 °C (190 °F) [1]
Minimum Long Term Temperature Resistance		-40 °C (-40 °F) [1]
Elongation at Break	ASTM D412	>350 %
Tensile Strength	ASTM D412	1.5 MPa (220 lb/in²)

[1] 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 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.

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) in the original, unopened packaging, out of direct sunlight. For best performance, use this product within 36 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

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ISO Statement

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

3M™ Industrial Adhesives and Tapes Division
3M Center, St. Paul, MN 55144-1000
3M.com/iatd