

SiliconEx 500

High Solids Silicone Cool Roof Top / Base Coat

TECHNICAL DATA SHEET

SiliconEx 500 is a single-component silicone elastomer specifically designed with high volume solids. It is a pure elastomeric silicone coating system that provides superior weatherproofing, and UV resistance over a variety of roof substrates. The outstanding features of SiliconEx 500 are its high solids content, rapid cure and superior physical properties. Tested and certified to meet Cool Roof Rating Council (CRRC) guidelines for Title 24 compliance.

FEATURES AND BENEFITS

- Ease of Application - Extremely Fast and Simple to Install
- Economical - Extends The Life of Your Roof
- Excellent Adhesion to a Variety of Roof Surfaces
- Hydrophobic - Withstands Water Penetration
- Prolongs The Life of a Roof While Helping Lower Internal Temperatures and Reducing Cooling Costs
- Can Be Used To Reinforce and Seal Seams, Penetrations and Terminations, and Make Spot Repairs
- Slows Degradation Caused By Normal Weathering, Aging, and Ultraviolet Rays
- Can Be Re-Coated Up to 7 To 10 Days Between Coats
- Retains Its Integrity From -80°F to 250°F (-62°C to 121°C)
- Accelerator Package Is Available to Shorten Cure Time
- Low-Solids Spray-Grade Version is Also Available

TYPICAL USES

SiliconEx 500 can be applied to aged or cured single-ply, metal, spray polyurethane foam, built-up roofing or modified bitumen, and concrete roof systems. Can be applied as part of a maintenance or repair program or as part of a complete restoration system with SolarEx Cool Roof System.

All SolarEx products are to be used and applied with reference to and in conjunction with SolarEx Guidelines and Specifications.

COLORS

White, Gray, and Tan. Other colors are available on special order.

COVERAGE

SiliconEx 500 has a coverage rate of 1.5 gallons/100sqft at 24 wet mils.

PACKAGING

5-Gallon Pail

55-Gallon Drum



TECHNICAL DATA (Based on Draw Down Film)

Property	Test Method	Results	
		HS	LS
Weathering QUV 5,000 Hours	ASTM D822	No degradation	
Dry Time @75°F (24°C), 50% RH		NA	>3 hours
Dry Time w/Accelerator Pkg. @75°F (24°C), 50% RH		NA	>2 hours
Durometer Hardness: Shore A	ASTM 2240	45-55	
Tensile Strength Die C, (psi)	ASTM D2370	300	500 ± 25
Tear Strength (pli)	ASTM D624	45	
Elongation, %	ASTM D412	250 ± 15	225 ± 15
Permanent Set at Break (%)	ASTM D412	NA	1.0
Permanent Change Heat Aged (%)	ASTM D412	NA	0
Tension Set @ 100%	ASTM D412	NA	0
Water Absorption	ASTM D570	NA	0.2
Specific Gravity		1.32	NA
Total Solids by Weight (%)	ASTM D2697	94 ± 2	78 ± 2
Total Solids by Volume (%)	ASTM D2697	94 ± 2	66
Viscosity (cps)		10,000-15,000	NA
Permeability, US Perms	ASTM E965	7.9	2.0
Volatile Organic Compound (VOC gms/liter)	ASTM D2369-81	<50	NA
Flash Point	ASTMD56	NA	115°F
Reflectivity 3 years (White)		0.67	0.63
Emissivity 3 years (White)		0.90	
SRI 3 years (White)		82	

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

TECHNICAL DATA SHEET

SiliconEx 500

STORAGE AND STABILITY

Keep containers closed, store in a dry, cool place elevated and away from heat, sparks, open flame, and moisture. SiliconEx 500 has a maximum shelf life of one year when stored at temperatures between 32°F and 100°F (0°C to 38°C). Caution should be exercised to prevent material from freezing.

WEATHERING AND RESISTANCE PROPERTIES

SiliconEx 500 has excellent appearance and good flexibility with no checking, cracking or significant discoloration after 5,000 hours Accelerated Weathering exposure in an Atlas Carbon Arc weatherometer according to ASTM D822. SiliconEx 500 has excellent heat resistance to 250°F (121°C) good salt, acid and solvent resistance, and fair alkali resistance.

ADHESION

SiliconEx 500 adheres well to most properly prepared construction surfaces. SiliconEx 500 can be re-coated when cured enough to allow light foot traffic or as much as 7 to 10 days between coats.

MIXING

Review all technical data sheets, system sheets, labels, instructions, SDS, and guide specifications before mixing and applying. At low speeds, mix 55 gallon drums and 5 gallon pails with a variable speed drill utilizing a jiffy mixer to suspend any settled pigments until a uniform color and consistency are achieved. Mixing time will vary based on temperature and atmospheric conditions.

APPLICATION EQUIPMENT

SiliconEx 500 may be sprayed, brushed, or rolled. A high-pressure airless paint pump capable of producing a minimum of 4500 psi at the spray gun should be used. The pump should have a minimum of 3 gallons per minute output and be fed by a 5:1 transfer pump. Always use components rated for pump pressure. Hoses should have a maximum length of 200 feet and a minimum inside diameter of 0.5"; a 3/8" whip may be used at the spray gun. The spray gun should be high pressure (5000 psi) with reverse a clean spray tip, having a minimum orifice of 0.019.

APPLICATION INSTRUCTIONS

Prior to coating any surface, be sure the coating will adhere by performing an adhesion test (ASTM D-903).

Coating may be applied by brush, roller, or airless spray equipment (see SolarEx Spray Application Guide).

ALWAYS CHECK THE WEATHER PRIOR TO ANY APPLICATION. Depending on ambient, and substrate temperatures, relative humidity, and dew point, take extra time and caution when applying the coating within 2 to 6 hours of precipitation and/or when raw or freezing temperatures are experienced or anticipated.

Do not apply over wet insulation or related materials. It is not recommended to apply SiliconEx 500 when substrate temperatures are over 120°F (49°C). Take

extra precautionary measures when doing so. In areas where the roof is subject to foot traffic, it is recommended to apply walkway pads for added protection and slip resistance. SiliconEx 500 can be extremely slippery, especially when wet. As an option, consider SiliconEx Accelerator for faster cure times.

DO NOT EXCEED 1.5 GALLONS PER 100 SF PER APPLICATION for SiliconEx 500. This could cause blisters and/or pinholes. Care should be taken to avoid sagging, pinholes, and runs of the coating on vertical, horizontal, and slanted surfaces to prevent sagging. Application rate may need adjusting if coating starts to sag on verticals or higher slopes. Allow base coat and/or top coat to dry 24 hours between coats. Additional coats may be required to achieve required mil thickness. SiliconEx Accelerator may be added to speed cure time in cool or dry conditions. Actual required application rate will depend on system specified and length of warranty.

Recoat time for SiliconEx 500 depends on environmental conditions and cleanliness of substrate. If applying after 48 hours, an adhesion test is recommended (ASTM D903).

PROTECTIVE EQUIPMENT

Since the coatings are atomized into a very fine particle distribution during spray application, it is essential that maximum effort is made to protect the spray applicator and others near the workplace from undue exposure.

PROTECTION OF THE WORKPLACE

Overspray from SiliconEx 500 can carry considerable distances and attention should be given to the following:

1. Post warning signs a minimum of 100 feet from the work area.
2. Cover all intake vents near the work area.
3. Minimize or exclude all personnel not directly involved with the spray application.
4. No welding, smoking or open flames.
5. Have CO₂ or other dry chemical fire extinguisher available at the job-site.
6. Provide adequate ventilation.

HEALTH AND SAFETY

Safety Data Sheets (SDS) are available on this product. Any individual who may come in contact with these products should read and understand the SDS.

SiliconEx 500 is intended for application only by professional trained applicators. Avoid breathing of vapor or spray mist. Care should be taken to exclude all personnel not directly involved with the spray application. SiliconEx 500 should not be applied when the wind is of sufficient velocity to cause overspray of adjacent areas, buildings or people.

VAPOR INHALATION

Vapor inhalation problems are characterized by coughing, shortness of breath and tightness in the chest. Anyone exhibiting these types of symptoms should be immediately removed from the workplace and administered oxygen or fresh air. If the condition is prolonged or extreme, **SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY.**

The best form of protection against organic solvents or potentially sensitizing vapors in the workplace is a fresh air supply. Numerous manufacturers, including the 3M Company and MSA, make full face fresh air masks. For maximum protection, we recommend use of NIOSH/MSHA approved self-contained breathing apparatus with a full-face piece operated in a positive pressure mode. In well-ventilated application conditions, the use of Type C organic vapor cartridge respirators is acceptable. Effects of overexposure to vapor are characterized by nasal and respiratory irritation, dizziness, nausea, headache, fatigue, possible unconsciousness or even asphyxiation.

SKIN CONTACT

To prevent excessive skin contact with the sprayed product, we recommend use of fabric coveralls and neoprene or other resistant gloves. Skin contact with liquid components can result in a rash or other irritation. Wash the affected skin area with water. Wipe residual liquid from the skin with a clean cloth, then wipe the affected area with 30% solution of rubbing alcohol. Follow the alcohol wipe with repeated washings with soap and water. If a rash or other irritation develops, see a physician.

INGESTION

If ingested and the victim is conscious, give large amounts of water or milk to drink. Obtain medical attention immediately.

EYE CONTACT

Wear a full-face mask or OSHA-approved protective goggles. Eye Contact with liquid or sprayed components can result in corneal burns or abrasions. Upon exposure, eyes should be flushed with water for an extensive period. **SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY.**

FLAMMABILITY

Flash point is 115°F (47°C). Avoid open flame or spark sources. Avoid excessive heat. Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors or other ignition sources at locations distant from the material-handling point. Never use a welding or cutting torch on or near the drum. In case of fire, use CO₂, steam, dry chemicals or water fog.

TECHNICAL SERVICES

Additional information, product brochures, and guide specifications are available. Roof energy evaluations, life cycle cost analysis, and other roof management services are also available from an SolarEx Technical Consultant.

LIMITED WARRANTY. We warrant our Products to be free of manufacturing defects and to comply with the Product's current published physical properties when tested under controlled conditions. Our sole responsibility is limited to replacement of that portion of any Products found to be defective at the time of manufacture. There are no other warranties of any nature whatsoever, whether expressed or implied, including an express disclaimer of any warranty of merchantability or fitness for a particular purpose. Further, we disclaim any liability for damages of any type, however caused, including remote, consequential damages, or special damages resulting from any theory of liability, whether based on tort, negligence, or strict liability. We disclaim responsibility for any claims of intellectual property infringement through use of our Products in any manner. No warranty or guarantee is issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, abnormal wear and tear, or improper application by the applicator. Damage caused by abuse, neglect, lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded. In all instances and as a pre-condition to any available remedy, we reserve the right to conduct sample testing and performance analysis on any materials claimed to be defective, performed prior to any repairs being made by owner, general contractor, or applicator. Our limited warranty is void if repairs have been made or attempted, or if the claimed defect has been adulterated prior to our ability to conduct a formal investigative analysis.

DISCLAIMER: Please read all information in the general guidelines, technical data sheets, application guide and safety data sheets (SDS) before applying material. Products are for professional use only and should only be applied by professionals who have prior experience with our Products or have undergone specific training in their proper application. Published technical data and instructions are subject to change without notice. Contact your local representative or visit our website for current technical data and instructions. All guidelines, recommendations, statements, and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of these tests are not guaranteed and are not to be construed as a warranty, either expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with any product. It is the user's responsibility to satisfy himself, by his own information and tests, to determine suitability of the Products for his own intended use, application and job situation and user assumes all risk and liability resulting from his own use of the Products. We do not suggest or guarantee that any hazards listed herein are the only ones that may exist. We are not liable to the purchaser, end-user, or any third party for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, our Products. Recommendations or statements, whether verbal or in writing, shall not be binding upon us unless in writing and signed by one of our authorized corporate officers. Technical and application information is provided for establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and we make no claim that these tests or any other tests, accurately represent all environments. We are not responsible for typographical errors. **All Rights Reserved.** Revision 20210105.EA