
DESCRIPTION:

Nukote SIL HS is a single-component silicone elastomer specifically designed as Cool Roof Top/Coats. 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 Nukote SIL HS are its high solids content, rapid cure and superior physical properties. Tested and certified to meet Cool Roof Rating Council (CRRC) and EPA guidelines for ENERGY STARR compliance.

FEATURES:

- Prolongs the life of a roof while helping lower internal temperatures and reducing cooling costs
- Hydrophobic - withstands water penetration
- Excellent adhesion to a variety of roof substrates and systems
- Ease of application - extremely fast and simple to install
- 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
- Economical - extends the life of the roof
- Retains its integrity from -80 to 250°F (-62 to 121 °C)
- Provides superior weather and UV resistance over a variety of roof substrates
- Tested and certified to meet CRRC and EPA guidelines for ENERGY STAR® compliance
- Also available in low volume solids (EVER-SILIC LS). Withstands ponding water
- Accelerator package is available to shorten cure time
- No cracking after 10,000 hours
- Slows degradation caused by normal weathering, aging, and UV rays
- Economical
- UL-790 Class “A” fire resistance rating

TYPICAL USES:

- Nukote SIL HS 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 Cool Roof System.

COLORS:

White, Grey, Tan. Custom colors, blended to match any RAL number, are available upon request subject to minimum quantity.

PACKAGING:

55-gallon (208.2 liters) drums
5-gallon (18.93 liters) pails

COVERAGE:

Nukote SIL HS may be applied at any rate to achieve the desired thickness.
Calculation for theoretical coverage: 100 ft²/gal @ 16 mils (2.4 m²/liter @ 0.4mm).

1 gal. = 16 wet mils/100 sq. ft.
 1.5 gal. = 24 wet mils/100 sq. ft.
 2 gal. = 32 wet mils / 100 sq. ft.
 2.5 gal. = 48 wet mils / 100 sq. ft.

Recommended system:

- 1- Nukote M80 Prime 1 gal/300 sq. ft. ((3.79 lit/27.9 sq.m)
- 2- Nukote SIL HS 1.5 gal/100 sq. ft. @ 24 mils wet (5.68 lit/9.29 sq.m @ 610 microns)

STORAGE:

12 months. Keep containers closed and store in a dry, cool place away from heat, sparks, open flame, excessive heat, and moisture. Keep material stored above 65°F (18°C). Open containers should be blanketed with dry nitrogen before resealing. Avoid storing the pails or drums on concrete floors. Use of wood pallet is recommended. 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 DATA (All values @ 77 °F / 25 °C)	US	Metric
Solids by volume (ASTM D2697)	97 %	97 %
Volatile organic compounds (ASTM D2369)	0.4 lb./gal	40 gm/ liter
Theoretical coverage	1 gal. = 16 wet mils/100 sq. ft.	3.8 lit = 0.4 wet mm/9.1 sq. m.
Specific Gravity of materials (ASTM D792)	10.93 lbs./gal	1.31 kg/ liter
Viscosity (ASTM D4878)	8,000-12,000 cps	8,000-12,000 cps
Shelf life @ 77 °F /25 °C	12 months	12 months
Tensile strength (ASTM D2370)	300 psi	2.07 MPa
Elongation (ASTM D412-C)	200±15 %	200±15 %
Hardness (ASTM D2240)	45 to 55 Shore A	45 to 55 Shore A
Flexibility (2mm mandrel ASTM D522)	Pass	Pass
Permeability, US Perms (ASTM E96)	3.6	3.6
Reflectivity	88 %	88%
Emissivity	91 %	91 %
Tear strength (ASTM D624)	45 pli	7.88 N/mm
SRI	112	112

Weathering QUV 10,000 hours

No degradation

MIXING:

Nukote SIL HS might not be diluted under any circumstance. Review all technical data sheets, system sheets, labels, instructions, SDS, and Guide Specifications before mixing and applying. At low speeds mix 55-gallon (208.2 liter) drums and 5-gallon (18.93 liter) pails with a variable speed drill utilizing a jiffy mixer to suspend any settled pigments until a uniform color and consistency is achieved. Mixing time will vary based on temperature and atmospheric conditions.

SURFACE PREPARATION:

- (1) Remove all unnecessary and non-functional equipment and debris from the roof.
- (2) Remove dirt, and foreign material detrimental to adhesion or application of fluid-applied roofing by thoroughly cleaning all roof surfaces with a high pressure (2,000 - 2,500) (13.79 MPa - 17.24 MPa) wash. Surfaces contaminated with oil, grease, animal fats, etc. must be removed using tri-sodium phosphate and water, or other solutions as required by job conditions and as permitted by local and federal regulations. Remove all cleaning solutions with plenty of fresh water and allow to dry.
- (3) Metal seam and flashing failures must be repaired by traditional and professional roofing practices. Tighten and/or replace all existing fasteners, install crickets and complete metal sheet work repairs.
- (4) Prime all unsatisfactory rust areas with a rust-inhibitor primer. Continue to prime seams and all remaining detailed areas with Nukote M80 Prime. Detail all roof penetrations, skylights, rake edges, round projections, machine legs, sign posts, guide wire straps, inside and outside corners, gutters, joints, pipes, voids, protrusions and any areas where water could enter through the roof.
- (5) Use silicone mastics and Polyurethane mastics where needed.
- (6) Allow roof and other prepared surfaces to dry completely before proceeding with field priming and/or coating application.

Note: Thickness values of cured film are averages and can vary due to finish of surface.

ALWAYS CHECK THE WEATHER PRIOR TO APPLICATION. Depending on the ambient, and substrate temperatures, relative humidity, and dew point take extra time and caution when applying the system 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.

PRE-INSPECTION:

Pre-inspect roof for necessary repairs before application of coating system. Inspection should include but not limited to the following:

- HVAC flashings
- Ponding water
- Parapet wall conditions
- Wet or damp insulation
- Sign or display anchorage
- Seams, terminations, transitions, and reglets
- Water leakage
- Substrate damage or disrepair
- Proper drainage/obstructions
- Copings and flashings
- Sleepers & pitch pockets

APPLICATION:

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. ALWAYS CHECK THE WEATHER PRIOR TO ANY APPLICATION. Depending on the 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 Nukote SIL HS when substrate temperatures are over 120°F. 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.

Nukote SIL HS can be applied by spray, roller, brush. Brushes of various sizes and a 3/8" (9.52 mm) nap roller should be used when applying on smooth surfaces such as metal.

Apply Nukote M80 Prime to the substrate at a theoretical coverage rate of 1/3 gal/100 sq. ft. (1.25_/9.29 m²) @ 5 wet mils (127 microns), and allow to dry. Then apply Nukote SIL HS top coat at the rate of 1½ gal/100 sq. ft. @ 24 wet mils (5.68_/9.29 m² @ 610 microns), to yield a total of 24 wet mils (610microns) of coverage (minimum requirement for 10-year material warranty).

If applying higher mil thickness of Nukote SIL HS, DO NOT EXCEED 3½ GALLONS PER SQUARE (13.27 liter per 9.29 m²) PER APPLICATION. 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 topcoat starts to sag on verticals or higher slopes. If adjusted, allow base coat and/or top coat to dry 24 hours in-between coats. Additional coats maybe required to achieve required mil thickness. Accelerator for topcoat may be used for faster cure times and to avoid pinholes and/or blisters. Actual required application rate will depend on system specified and length of warranty. Nukote SIL LS is also available for a low solid application. Accelerator is also available for faster curing times.

After completion of application, do not allow traffic on coated surfaces for a period of at least 48 hours at 75° F and 50% R.H., or until completely cured.

Nukote SIL HS can be extremely slippery, especially when wet. As an option, consider Accelerator for faster cure times.

Note: Spray application is not recommended below 50°F (10°C).

To avoid pin-holes and blisters do not apply Nukote SIL HS in on application at a rate of 3.5 gallons per 100 square feet, (13.25 liters/9.29M²) @ 56 wet mils (1422 U). If apply at an application rate higher than 3.5 gallons per 100 square feet Accelerator may be used to avoid pinholes and/or blisters.

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

To alleviate the smell of Nukote SIL HS from entering the building, Black Carbon Filter which can be installed over HVAC intakes.

EQUIPMENT CLEAN UP:

Cured product may be disposed of without restriction. Containers should be disposed of according to local environmental laws and ordinances.

WARNING:

Review the Safety Data Sheets (SDS) and container labels for detailed health and safety information. This product is intended for industrial use by properly trained professional applicators only.

WARRANTIES AND DISCLAIMERS:

Nukote Coating Systems International, a Nevada, USA Corporation warrants that the two components of this product shall conform to the technical specifications published in the product literature. The quality and fitness of the product is dependent upon the proper mixture and application of the components by the applicator. Nukote Coating Systems has no role in the application of the finished polymer other than to manufacture and supply its two components. It is vital that the person applying this product understands the product and is fully trained and certified in the use of plural component equipment and application of plural component materials. There are no warranties that extend beyond the description on the face of this instrument, except when provided in writing, directly by Nukote Coating Systems International and executed under seal by a company officer.