

MAY 2023



KNIGHTSHIELD

KS-5100

High Solids, Silicone Roof Coating

DESCRIPTION

KNIGHTSHIELD KS-5100 is a one-component, 100% silicone, moisture cure, waterproof roof coating that forms a seamless monolithic barrier to the effects of weathering, ponded water, erosion and ultraviolet exposure. KNIGHTSHIELD KS-5100 has excellent durability, color stability and chalk resistance. The coating can be applied using brush, roller, squeegee or airless sprayer.

USES

KNIGHTSHIELD KS-5100 is recommended as a protective coating for both new and existing roofs. KNIGHTSHIELD KS-5100 bonds to all types of aged membranes*, sprayed-in-place polyurethane foam roofing systems, elastomeric roof coatings, concrete, plywood, and coated metal, on low slope or sloped roofs.

FEATURES/BENEFITS

- High solids – One-coat application
- Weathering protection, long-term
- High reflectivity for cool roof applications
- Withstands permanent ponding water
- Mold and mildew resistant**
- Excellent adhesion – designed for use over many different substrates, such as SPF, metal roofs, elastomeric coatings, PVC, concrete, EPDM and TPO*
- Can be applied by brush, roller, squeegee, and airless sprayer
- Can be applied over a wide temperature application range
- Full roof system – can be used with accessory products to construct a waterproof membrane over complex surfaces

PACKAGING

1 Gal. (3.8 L Cans) (2 Cans/Carton)
 5 Gal. (18.9 L) Pails
 55 Gal. (208.2 L) Drums

SHELF LIFE

Twelve months from date of manufacture in the original, unopened container stored below 90° F (32° C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat or ignition.

APPLICATION

Surface Preparation ... All surfaces to be coated must be clean, dry and frost-free. A 25-mil thickness at 77° F and 50% RH will skin over in approximately 60 minutes and have sufficient strength to walk on after approximately 4 - 6 hours. Times will be longer in dry climates.

Mixing ... Mix with a properly sized agitator (300 – 400 rpm) for a minimum of five minutes to ensure an even consistency of coating is obtained without air in suspension.

Application Method ... The temperature of the surface to be coated should be between 35° and 120° F (2° and 49° C) and environmental temperature should be at least 5° F (3° C) above the dew point prior to and during application.

When working in high humidity and/or high temperature environments, it is recommended to use a pail lid adapter fitted with an agitator. This will prevent the product from skinning over and curing in the pail during application. Coating has resistance to light rain one hour after application with temperature at 77° F (25° C) and 50% RH.

It is recommended that KNIGHTSHIELD KS-5100 be applied using a 1 ¼" nap roller or an airless sprayer; however, brush and squeegee are also suitable methods of application. It is necessary to apply at a rate that will target 25 wet mils and achieve a minimum of 22 dry mils at all inspection points. The product can be applied in a single coat, withstanding blistering. Roller and brush application may require multiple coats to achieve desired dry film thickness.

Surface finish is dependent on application method. Avoid using a combination of application methods whenever possible. Superior aesthetic appearance will be obtained with airless sprayer application.

CONTINUED ON REVERSE SIDE ...

W. R. MEADOWS, INC.

P.O. Box 338 • Hampshire, IL 60140-0338
 Phone: 847/214-2100 • Fax: 847/883-4544
 1-800-342-5976

www.wrmeadows.com • info@wrmeadows.com



Always perform an adhesion test patch over smooth substrates, existing coated roofs and metal roofs. If the adhesion result test is not satisfactory for the project, utilize KS-5800 two-part primer or contact W. R. MEADOWS for compatible primers and repeat test.

COVERAGE RATE

Wet Film Thickness	Gallons/100 Sq Ft
24 mils	1.5 Gal

TECHNICAL DATA

Cure System	Moisture Cure, Neutral pH
VOC	49 g/L
Uncured	
Volume Solids	94%
Specific Gravity	1.32
Viscosity	4100 ± 1000 cP
Cure System	Neutral pH, Moisture Cure
Cured at Standard Conditions for 7 Days <i>At standard conditions [77° F (25° C) and 50% relative humidity]</i>	
Hardness (ASTM D2240, Shore A)	40 Points
Initial Tensile Strength (maximum stress) @ 23°C per ASTM D2370/D 6694/D6694M- 15	288 psi
Initial Tensile Strength (maximum stress) @ -18°C per ASTM D2370/D 6694/D6694M- 15	376 psi
Initial Percent Elongation (break) @ 23°C per ASTM D2370/D 6694/ D6694M- 15	282%
Initial Percent Elongation (break) @ -18°C per ASTM D2370/D 6694/ D6694M- 15	330%
Tear Resistance (ASTM D624 Die B)	22 lbf/in
Adhesion to SPF per ASTM D903/D 6694/D6694M- 15	3.55 pli
Permeance per ASTM E96/E96M (Procedure B water inverted) D6694/D 6694M- 15	4.44 perms
Low Temperature Flexibility @ -26°C per ASTM D522/D 6694/D 6694M -15 min. Pass (around a 1/2" mandrel)	Pass

CRRCA ASTM D7897-18 Standard Practice for Laboratory Soiling and Weathering of Roofing Materials to Simulate Effects of Natural Exposure on Solar Reflectance and Thermal Emittance	Initial	
	C1549-16	0.856
	C1371-15	0.89
	E1980-11(2019)	107.9
	Soiled	
	C1549-16	0.723
C1371-15	0.89	
E1980-11(2019)	88.9	
Cured Film Temperature Stability:	-76° to 392° F (60° to 200° C)	

AVAILABLE COLORS

White, Gray, Tan, Black

Drying Time

Skin-over Time	45 minutes*
Dry/Cure/Recoat Time	4 to 6 hours
Full Physical Characteristics	7 days

*At standard conditions [77° F (25° C) and 50% relative humidity]
* At temperatures of 70° F (21.1° C) or higher and RH of 50% or higher*

Cleanup ... Tools, etc. can be cleaned with naphtha or odorless mineral spirits. Do not allow material to remain in hoses, gun or sprayer equipment.

Fully cured coating is environmentally benign (will not harm) and is suitable for landfill disposal. However, always check local environmental regulations before disposal.

ACCESSORIES

KNIGHTSHIELD KS-5100 is compatible with all W. R. MEADOWS silicone sealants, including KNIGHTSHIELD KS-5400, KS-5600 and KS-5700. Please contact W. R. MEADOWS for additional compatibility with after-market roof products.

LIMITATIONS/PRECAUTIONS

Do not thin product. Work stoppages are not recommended with only partial utilization of a container. If work must stop after only a portion of a container is used, seal to minimize air and moisture contact with the coating by covering the surface of the coating with a sheet of polyethylene film, then reseal the container to be airtight.

Upon reopening the container to restart work, peel back the polyethylene film. If curing of the coating has occurred, use a utility knife to cut the cured coating away from the wall of the container. Peel away the cured layer of coating to expose fresh coating underneath.



Not for use on three-tab asphalt or architectural shingles. Not for use in contact with potable water.

Compatibility to other building materials or products is the sole responsibility of the specifier or end user.

Multiple coats, sealants and combinations of other compatible roof materials may be required to create a seamless membrane system.

*Adhesion testing is required before coating single-ply membranes. Some will need to be primed to achieve necessary adhesion. Primers over TPO are typically needed.

**It is not uncommon in permanent water-ponded areas to see red algae formation. This will not compromise the performance of the silicone.

This product is intended for use only by professional applicators in industrial situations.

Use extreme caution when working or walking on silicone-coated surfaces. Surface is extremely slippery.

For most recent data sheet, LEED information and SDS, visit www.wrmeadows.com.



LIMITED WARRANTY

W. R. MEADOWS, INC. warrants at the time and place we make shipment, our material will be of good quality and will conform with our published specifications in force on the date of acceptance of the order. Read complete warranty. Copy furnished upon request.