



# Technical Data Sheet

## SIL-HS™ SILICONE TOP COAT

### WATERPROOFING 100% SILICONE COATING HIGH-SOLIDS (HS) ELASTOMERIC COOL ROOF SEALER

#### PART 1: GENERAL INFORMATION

##### 1.1 PRODUCT DESCRIPTION

Bull-Bond® SIL HS™ is a High Solids (HS), 100% Silicone rubber, solvent-free, single component, moisture cured, elastomeric liquid roof coating. It cures to form a highly elastic, impermeable, and monolithic silicone membrane shield to protect and waterproof roofs in tropical climates. SIL HS™ is based on 100% pure silicone rubber an extremely durable inorganic sealing product that is inert to bacteria, fungi and algae growth. The chemical composition of SIL HS™ makes it extremely durable, cleanable and resistant to permanent ponded water conditions in flat roofs for the entire roof life. SIL HS™ high reflectivity and Cool Roof properties are due to the coating's ultra-white finish that reflects the sun's heat and UV rays. SIL HS™ cools the roof surface, reducing interior temperatures and cooling costs in tropical climates.

##### 1.2 BASIC USES:

- Waterproofing Silicone Cool Roof Coating
- BULL-BOND® SIL HS™ is suitable for exterior conditions on horizontal and vertical roof surfaces for the previously mentioned application.

##### 1.3 SUITABLE SUBSTRATES:

BULL-BOND® SIL HS™ 100% Silicon can be applied to:

- Aged Asphalt Roofs, including Built-Up Roofing (BUR) and Modified Bitumen (MB)\*
- Aged Single-Ply Roofs, including TPO, PVC, and Hypalon® Roofs\*
- Spray Polyurethane Foam (SPF)
- Metal\*
- Concrete\*
- Previously Coated Silicone roofs as a retouch.
- PRO-SIL® Red Primer\* Treated Roofs with: Acrylic Roof Coatings, Polyurethane Roof Systems, Concrete Roofs, Repaired Polymer Cement Roof Surfaces, Asphaltic Roofing Membranes, Galvanized Steel Surfaces, Other Metal Roofs and Cement Board Substrates.

- The use of Silicone Primers is required on certain roof substrates to assure adhesion and for warranty validation. Consult Conspro Corp. for specific primer recommendations, field testing protocols, product installation information, primer approvals and warranty requirements before product use on commercial projects.

*\*It is mandatory that concrete, polymer cement substrates, BB 2K Microtopping™ and BB 2K SL™ roof repairs are properly primed with PRO-SIL® Red Primer before applying the SIL HS™ Silicon Top Coat. Superb adhesion can be obtained if the SIL HS™ silicon is applied over an existing roof waterproofing in good condition and prepared with the PRO-SIL® Red Primer.*

##### • Re-Coat Existing Silicone Roofing Membranes:

In the case of RE-COATING an EXISTING SILICONE roof surface it is compulsory that the silicone substrate is kept bare, clean and dry. Scrub thoroughly roof with a Degreaser, rinse and allow to dry for 24 hours. Clean old silicone surface with an Acetone solvent wipe before the SIL HS™ Top Coat application. All roof substrates to be waterproofed must be completely dry with minimal moisture content and must be 10°F (5.5°C) above substrate dew point.

##### 1.4 ADVANTAGES:

- 100% Waterproof - 100% Hydrophobic.
- Designed for Tropical Climates and Flat Roofs.
- Extends roof-life and reduces maintenance costs.
- Highly reflective for Cool Roof Energy Savings. Lowers AC utility bills.
- Strongest adhesion with most types of roof substrates.
- Extremely durable, weather resistant and UV resistant.
- Easy application by brush, roller, squeegee or airless spray.

##### 1.5 LIMITATIONS

- Do not apply SIL HS™ without proper application of PRO-SIL® Red Primer in difficult substrates or bonding failure could occur.
- Do not apply when air temperature exceeds 105°F (40°C).
- Do not apply to wet or damp roof surfaces or if RH is greater than 90%.
- Do not apply when it may rain or dew may condense on the roof surface before the coating can dry. All substrates must be completely dry without any surface moisture and must be 10°F above the dew point.
- Do not apply when air or surface temperature is below 55°F (12°C) or expected to fall before coating can cure.

#### PART 2: TECHNICAL DATA

PRODUCT CHARACTERISTIC	
BULL-BOND® SIL HS™ SILICONE TOPCOAT	
COMPOSITION	100% Silicone Rubber
COLOR	Bright White
WEIGHT SOLIDS	95% ±1% W
VOLUME SOLIDS	95% ±1% V
DENSITY	11.30 lbs/gal
VISCOSITY	8,000 cps @ 77°F (#5 Spindle 20 rpm)
VOC	< 10 grams/liter
DRY TIME	To touch: 60 min Total cure: 12-24 hrs
SHELF LIFE	9 months

## 2.2 MATERIAL PHYSICAL PROPERTIES:

MATERIAL PHYSICAL PROPERTIES		
PROPERTY	METHOD	BULL-BOND® SIL HS™ TOP COAT
Dry Adhesion	(ASTM D903)	13.0 pli
Wet Adhesion	(ASTM D903)	10.0 pli
Tensile Strength	(ASTM D2370)	235 psi
Elongation	(ASTM D2370)	175%
Perms Water Vapor Transmission (WVT)	(ASTM E-96)	5 US perms
Hardness Shore A	(ASTM D2240)	42
Weathering	(ASTM D6694)	No degradation 4000 hrs
Fire Resistance	(ASTM E108)	Class A
Wind Uplift	(FM 4474)	900 psf
Fungi Resistance	(ASTM G21)	0 rating
Algae Resistance	(ASTM G29)	0 rating
Solar Reflectance	(ASTM C1549)	87% (initial)
		NA
Thermal Emittance	(ASTM C1371)	0.90 (initial)
		NA
SRI	(ASTM E1980)	110 (initial)
		NA

## 2.3 Curing time

Tack Free in 60 - 80 minutes. Full Cure within 12 to 24 hours depending on weather conditions.

## 2.4 Shelf life

Minimum 9 months from the date of production in sealed containers, when stored in dry, cool, and covered area.

## 2.5 Packaging Size

Net Content: 4.75 Gallons plastic pail. 18.0 Liters.

## PART 3: INSTRUCTIONS

### 3.1 ROOF INSPECTION AND VERIFICATION

A. Investigate if old waterproofing treatments or coatings are fully adhered. Delaminations, bubbles or detached areas require complete and immediate removal of the damaged material.

B. Verify that all mechanical equipment, extractors, air conditioners, tanks, antennas and other articles are securely attached to roof. These objects should be raised in pedestals without obstructing the roof water drainage.

C. Verify how the roof drainage system is functioning and whether it is working efficiently. Check the condition of the drains and make sure they have the correct elevation. Mark the lows spots on the roof, see if they have proper drainage to the roof drains and mark areas that remain with ponding water or bird baths.

D. Ensure that all air intake, ventilation ducts and air conditioning vents are suitably protected or closed.

E. Make sure that all critical areas in the vicinity of the application area are adequately protected.

F. Check for trees releasing organic matter (branches, seeds, leaves, etc.) that obstruct and/or clog the roof drains. Take the necessary measures to eliminate these pollutants from the roof.

G. Ensure that the roof slope and all water ponding issues can be corrected without applying excessive weight on the roof and adversely affecting the total cost of the project.

#### 3.1.1 Concrete Roof:

A. Concrete surfaces to receive the waterproofing system must have a BULL-BOND® SIL HS™

minimum of 3,000 psi compressive strength. Inspect the concrete roof and make sure it is firm, structurally sound and, with a CSP of 1-4.

B. Check for cementitious repairs or patches that are not fully adhered (Sounding test with hammer or chain drag). Verify for spalling or pattern cracking. Delaminated materials and faulty repairs require complete and immediate removal. (Follow ICRI recommendations for all structural concrete patching and repairs.).

#### 3.1.2 Asphaltic Roofing Membrane:

A. Asphaltic membranes to receive SIL HS™ waterproofing must be fully adhered to the original roof substrate. Delamination, bubbles, blisters and/or detached areas require immediate repair or removal down to a sound substrate. Investigate whether the existing roofing materials, including insulation, are deteriorated and/or saturated with water. If this is the case, they require complete repair or removal down to a sound substrate. Mark all problematic areas on the roof for future localized repairs before application of the coating.

B. Verify whether the roof has moisture problems beneath the asphaltic membrane. If this is the case, these areas must be marked for later repair.

C. Check for liquid asphalt repairs or patches that are exposed with pattern cracking. If this is the case, these materials require complete and immediate removal.

D. Areas with aluminum coating or asphaltic paints must be removed completely before SIL HS™ application.

#### 3.1.3 Metal Roof:

A. Make sure that the metal roof to receive the waterproofing system is firm, sound and safe.

B. Inspect the roof metal panels for excessive rust and loss of integrity. Severely damaged metal roof panels need to be replaced. Make sure that all metal panels are sound and all screws tightly bolted before product installation. Metal panels with seam gaps greater than 1/16" must be stitched as tight as possible with metal screws and the seams reinforced with urethane sealants / coatings and polyester fabric mesh.

### 3.2 SURFACE PREPARATION

The surface must be clean from loose particles, dirt, dust, oil, etc. Bull-Bond® SIL HS™ silicone must be applied on dry and sound surfaces. Old coatings residuals should be removed from the existing surface. Use regular bleach diluted with water at a ratio of 1:10 and rinse immediately; to eliminate mold and fungi from the roof. All substrates should be pressure water washed and allowed to dry at least 24 hrs prior to coating application. All roof substrates must be completely dry with minimal moisture content and 10°F (5.5°C) above the dew point. All joints, cracks, seams and roof defects should be sealed using Dymonic 100 sealant prior to the application of the primer or silicone coating. Concrete surfaces must be prepared to a CSP of 1-4. (Concrete Surface Profile).

### 3.3 PRIMING

Bull-Bond® SIL HS™ silicone can be applied without the use of a primer. However, our field experience is that adverse factors and jobsite conditions can compromise the adhesion of the SIL HS™ silicone in tropical climates. Weather conditions: humidity, rain, dew; roof substrate profile, roof moisture content, roof prep inconsistencies and much more can create complications at waterproofing jobs. To control these adverse application factors PRO-SIL® Red Primer is used as an adhesion promoter; a bleed-block primer for bitumen surfaces or as an Anti-Rust primer for oxidized roof metal sheets is required. Generally, a field adhesion test is highly recommended for unknown roof surfaces before the SIL HS™ silicone application.

Primer use generally doubles (2X) the silicone substrate adhesion

and prevents adhesion defects. The following roof surfaces properly primed with PRO-SIL® Primer are compatible with the SIL HS™ silicone:

- Acrylic Roof Coatings
- Polyurethane Roof Coatings
- Concrete, Masonry and 2K Polymer Cement Repairs
- Asphalt Roofing Membranes, Smooth or Granulated
- Cement Board
- Galvanized Steel and other Metal Surfaces

Recoating an existing Silicone requires NO PRIMER. When recoating an existing silicone coating it is compulsory that the substrate is completely power washed, cleaned with degreaser detergent, allowed to dry at least 24 hours and wiped with Acetone solvent before SIL HS™ silicone Top Coat is applied.

### 3.4 Mixing

Mix well prior to the use, as coating may settle during storage. Mixing must be done using a drill. Use a clean normally 3" diameter mixing paddle until consistent viscosity is achieved, 2-4 minutes of mixing. Do not thin the product with solvents or add water. Product skins can form at top of pails. Remove skins prior to mixing.

## PART 4: PRECAUTIONS

### 4.1 Storage & Product Transport:

Protective clothing, gloves, and eyewear should be used during application. Do not heat the pails or place the pails near a heated surface. Keep the pails sealed, when not in use. Material must be stored in a shaded area with temperatures between 50°F and 85 °F. Storage at temperatures outside these conditions or at relative humidity over 65% will reduce the shelf life. Tightly seal the pail after opening and when not in use. Opened pails must be used within 3 - 5 days after opening. If a skin forms at the top of opened pail, remove prior to mixing material. When transporting this product, ensure that the lid and openings are tightly sealed. Do not allow products to tumble or shift as this may cause leakage to occur. Do not transport on inside the passenger compartment of any vehicle.

### 4.2 General Use Advise:

Do not apply SIL HS™ over cementitious substrates without proper application of PRO-SIL® Red Primer or a bonding failure could occur. • SIL HS™ may be applied over previous coatings in sound condition, but doing so could affect the material warranty. Final adhesion of the SIL HS™ silicon membrane will depend on; the fitness and bonding of the existing roofing material, the quality of the roof prep work; and the thorough removal of the damaged roof substrate/sealer/coating.

Avoid sanding, scraping or grinding of the dry silicone coating to minimize airborne dust and vapor exposure. Wash hands thoroughly after handling.

- Do not apply when air or surface temperature exceeds 95°F (35°C).
- Do not apply to wet or damp surfaces.
- Do not apply when it may rain or dew may condense on the surface before the coating can dry.
- Do not apply when air or surface temperature is below 55°F (12°C) or expected to fall lower.
- Cured SIL HS™ Silicone produces slick and slippery roof surfaces when wet. Use extreme caution when walking on wet or damp SIL HS™ roof surfaces. Roof deck walking paths are recommended for all commercial jobs to assure safety of service personnel in silicone treated roofs.

### 4.3 Product Health & Safety Precautions:

SAFETY & HEALTH STATEMENTS: CAUSES SKIN IRRITATION. CAUSES SERIOUS EYE IRRITATION. SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD. MAY CAUSE RESPIRATORY IRRITATION.

PREVENTIVE MEASURES: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye protection. Wash

BULL-BOND® SIL HS™

thoroughly after handling. Avoid breathing vapors, mists and sprays. Use only outdoors or in a very well-ventilated area.

Carefully read and follow all cautions and warnings on Product Label, Technical Data Sheets (TDS) and Safety Data Sheets (SDS).

Avoid breathing product vapor or mists. Use only with adequate ventilation. FOR EXTERIOR USE ONLY. Can cause eye, nose, throat and respiratory irritation. Harmful if swallowed. KEEP OUT OF REACH OF CHILDREN.

## PART 5: WARRANTY / GUARANTEE

CONSPRO CORP.'s warranty and product liability are strictly limited to refund the purchase price or to replace the defective material with an equal or similar product. If any material is found defective or not usable, CONSPRO CORP. will promptly replace the defective material to the purchaser or refund the purchase price.

### 5.1 PRODUCT WARRANTY PROGRAM:

CONSPRO CORP. warrants, subject to the terms and limitations hereof, that Bull-Bond® SIL HS™ Silicone will seal the treated roof against water infiltration for a period of 10 years when applied in accordance with all Product application procedures outlined in the product's technical data, label and warranty sheets. Purchaser, Contractor or Building Owner must complete the warranty registration form, deliver it to Conspiro and finish the warranty process to obtain the SIL HS™ performance warranty certificate. Failure to apply a DFT of less than 25 mils (0.63 mm) or to follow all currently published installation instructions or to comply with the SIL HS™ Warranty documentation/registration program will render this warranty null and void.

### 5.2 NOTIFICATION OF CLAIM

All defective product claims must be received in writing within 30 days of the discovery of the fault. No claims will be considered without such written notice, without a valid warranty certificate, or after the specified claims time interval. CONSPRO CORP. will promptly investigate all properly reported claims. Our investigator will prepare a written/oral report describing the nature of the problem and an explanation for the reported difficulties. An authorized officer of CONSPRO CORP. will handle all complaints and resolve any pending problems after this point.

### 5.3 LIMITED WARRANTY RENEWAL OPTION

This warranty is renewable at the preference of the Building Owner. To qualify for warranty renewal, Building Owner must contact CONSPRO CORP. and request a roof inspection no later than 180 days prior to the expiration of the warranty term. A representative of CONSPRO CORP. will inspect the Product installation, roof condition and will recommend the recoat and/or repairs necessary for warranty renewal. Once the roof repairs and product recoating actions outlined in CONSPRO CORP.'s recommendation are completed, Building Owner may request the renewal of the renewal product performance warranty. This warranty may be renewed throughout the lifetime of the building. Failure to contact CONSPRO CORP. to request the required inspection or requesting a renewal outside the warranty term voids the renewable warranty benefit. Warranty is renewable as long as renewals have occurred sequentially throughout the lifetime of the product and property.

### 5.4 WARRANTY EXCLUSIONS

Warranty is invalidated by faulty or poor workmanship not in accordance with written product installation instructions, product installation guidelines and applicable industry standards. CONSPRO CORP. is not responsible for normal wear and tear resulting from regular usage or for warranty claims involving product abuse or misuse. Warranty does not cover damage or defects resulting from:

1. Natural disasters, vermin or acts of God, fire, earthquakes,
2. Misuse, abuse or negligence, abrasion or cuts to membrane,
3. Lack of roof maintenance,
4. Standing or pooling water,
5. Faulty construction or design, inadequate drainage or other failures of the structure or ground,

6. Failure of the building base roof substrate,
7. Defects, blisters or delaminations in the materials, substrate, coating or roofing systems,
8. Impact or tear due to of foreign objects, damage
9. Discoloration or damage that is solely cosmetic, visually apparent, or
10. Application of SIL HS™ with a DFT less than 25 mils (0.63 mm).

Any use of BULL-BOND® products for purposes other than those specifically described by the product label, published instructions and/or technical data sheet shall render this warranty null and void.

CONSPRO CORP. will not be liable for product usage recommendations by salespersons or employees that are contrary to published instructions and/ or technical data sheet. The user is responsible for examining all published instructions and technical data sheets and shall determine the suitability of the product for his intended use before application and/or use. The user assumes all liabilities and risks whatsoever in connection the use and application of the product.

#### **4.5 NON-ASSIGNABILITY**

This warranty is not transferable nor assignable by contract or operation of law either directly or indirectly.

#### **4.6 LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW**

This warranty is made in lieu of any and all other warranties, expressed or implied, including the warranties of merchantability and or fitness for use, which are hereby disclaimed. It is understood and agreed that buyer's sole remedy and therefore seller's liability whether in contract, tort, under any warranty in negligence, or otherwise, is limited to the return of the purchase price. The product warranty does not cover consequential and/ or special damages or labor costs of any sort. Any and all problems, controversies, disputes or claims arising or regarding the use, warranty, recommendations, effectiveness, durability or others involving this product will be resolved only by arbitration in the Commonwealth of Puerto Rico per applicable Puerto Rico arbitration rules and proceedings in effect at the time the claim is known.

#### **Part 5: Disclaimer:**

The information contained in this document is given in good faith based on our current knowledge. It is only an indication and is in no way binding, particularly as regards to infringement of or prejudice to third party rights employing our products. Users are responsible for ensuring compliance with local regulations and for obtaining the necessary certifications, authorizations, licensing and permits for product application, if required. Product users must check that they are in possession of the latest version of this product technical data sheet. For any additional product information or questions please contact Conspro Corp. at 1-787-653-4900 or at [info@conspro.com](mailto:info@conspro.com).

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