



Since 1967

Technical Data Sheet

PRO-SIL™ PRIMER & TOP COAT

100% SILICONE WATERPROOFING COOL ROOF COATING SYSTEM

PART 1: GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

BULL-BOND® PRO-SIL™ is a high-solids, 100% silicone, elastomeric, ultra-white cool roof coating, formulated to seal, protect and waterproof roofs in extreme tropical climates. PRO-SIL™ is based of pure silicone rubber which makes it an inorganic coating material. This is why it is completely inert to bacteria, fungi and algae growth therefore resistant to permanent ponded water conditions. The chemical composition of PRO-SIL™ makes it extremely durable and cleanable for the entire roof life. PRO-SIL™ high reflectivity is due to the coating's ultra-white finish that reflects the sun's heat and UV rays; as a result, PRO-SIL™ cools the roof surface, reducing interior temperatures and cooling costs.

1.2 BASIC USES:

- Waterproofing Cool Roof Coating

BULL-BOND® PRO-SIL™ is suitable for exterior conditions on horizontal and vertical surfaces for the previously mentioned application.

1.3 SUITABLE SUBSTRATES:

- Properly primed with PRO-SIL™ Step A – Primer:
 - Acrylic Coatings
 - Polyurethane Coatings
 - Concrete
 - Asphaltic Roofing Membranes
 - Polyurethane Foam
 - Cement Board
- Properly primed with METAL PRIMER or PRO-SIL™ Step A – Primer:
 - Galvanized Steel and other Metal Surfaces
- Bare without PRO-SIL™ Step A – Primer:
 - Silicone Coatings

**It is compulsory that the following substrates are properly primed with PRO-SIL™ Primer (Step A) before applying PRO-SIL™ Top Coat (Step B): acrylic coatings, polyurethane coatings, concrete, cement board, galvanized steel and other metals. In the case of a silicone coating it is compulsory that the substrate is kept bare and is completely cleaned with degreaser and Xylene solvent before PRO-SIL™ Top Coat (Step B) application. Good adhesion can be obtained over existing coatings, but the final adhesion of PRO-SIL™ will depend on the adhesion level of the previously applied material. All substrates must be completely dry without any moisture content and must be 10° above dew point.*

1.4 ADVANTAGES:

- Ultra-white finish lowers roof temperature
- Promotes cooling energy savings
- Inorganic material
- Permanent ponded water resistance

BULL-BOND® PRO-SIL™

- Inert to bacteria and fungi
- U.V. resistant
- Mildew, fungi and algae resistant
- Elastomeric membrane
- Excellent coverage
- High durability
- Permanent flexibility
- Low VOC

1.5 LIMITATIONS

- Do not apply PRO-SIL™ Top Coat (Step B) without proper application of PRO-SIL™ Primer (Step A) or bonding failure will occur.
- PRO-SIL™ may be applied over previous coatings in sound condition, but doing so will void the warranty.
- 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 50°F (10°C) or expected to fall before coating can dry.

PART 2: TECHNICAL DATA

2.1 PRODUCT CHARACTERISTICS:

PRODUCT CHARACTERISTICS	
BULLBOND® PRO-SIL™	
COMPOSITION	Solventless 100% Silicone
COLORS	White
WEIGHT SOLIDS	96%
VOLUME SOLIDS	96%
DENSITY	11.60 lb/gal
VISCOSITY	8,000-12,000 cps @ 77°F (#5 Spindle 20 rpm)
VOC	< 10 grams/liter
DRY TIME	To touch: 2 hrs Total cure: 8 hrs
SHELF LIFE	6 months

2.2 MATERIAL PHYSICAL PROPERTIES:

MATERIAL PHYSICAL PROPERTIES		
PROPERTY	METHOD	BULLBOND® PRO-SIL™
Dry Adhesion	(ASTM D7088)	3.0 lb
Wet Adhesion	-	3.0 lb
Water Vapor Permeability	(ASTM E96)	3.0 lb
Tensile Strength	(ASTM D2370)	331 psi
Elongation	(ASTM D2370)	192%
Perms	(ASTM E-96)	6%
Salt Spray Resistance	(ASTM B117)	No effects
Weathering	(ASTM D6694)	No degradation 5000 hrs
Wind Uplift	(FM 4474)	-
Fungi Resistance	(ASTM G21)	0 rating
Algae Resistance	(ASTM G29)	0 rating
Solar Reflectance	(ASTM C1549)	87 % (initial)
		70 % (3 years)
Thermal Emittance	(ASTM C1371)	0.89 (initial)
		0.90 (3 years)
SRI	(ASTM E1980)	110 (initial)
		86 (3 years)

PART 3: INSTRUCTIONS

3.1 ROOF INSPECTION AND VERIFICATION

A. Investigate whether or not old waterproofing treatments are fully adhered. Delamination, bubbles or detached areas require complete and immediate removal of the old material.

B. Verify that all mechanical equipment, air conditioners, tanks, antennas and other articles are securely placed. These objects should be raised 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.

D. Ensure that all air intake 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 minimum of 3,000 psi compressive strength. Inspect the concrete roof and make sure it is firm and safe, with a CSP profile of 1-4

B. Check for cementitious repairs or patches that are not fully adhered (sound test with hammer or chain drag). Verify for spalling or pattern cracking. If this is the case, these materials require complete and immediate removal.

3.1.2 Asphaltic Roofing Membrane:

A. Asphaltic membranes to receive the waterproofing system 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 the 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 and/or with pattern cracking. If this is the case, these materials require complete and immediate removal.

3.1.3 Metal Roof:

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

B. Inspect the roof metal panels for excessive rust and loss of integrity. If this is the case, these panels need to be replaced. Make sure that all metal panels are sound and smooth before product installation. Metal panels with seam gaps greater than 1/16" must be stitched as tight as possible.

3.2 SURFACE PREPARATION

1. Wash the roof with a pressure washing machine of 3,000 to 4,000 psi.
2. To eradicate fungus, use regular bleach diluted with water at a ratio of 1:10 and rinse immediately to prevent absorption of chlorine into the concrete. Alternatively, you can wash with an industrial detergent.

**It is important to dilute the bleach with water and wash the roof immediately. Never leave roofs with chlorine solutions without rinsing.*

3.2.1 Concrete Roof:

1. The roof surface should be structurally sound, solid, completely clean, dry and free of dust, mold, oil, grease, and foreign material, with a CSP profile 1-4.
2. Identify, measure and mark all cracks and joints on the roof with a marker (wax crayon or chalk). Check the thickness, length and type of crack to continue later with the appropriate repair.
3. Identify all the surface imperfections, defects and/or unevenness on the roof profile (exposed aggregate, excessive roughness, pits, holes, craters, etc.).
4. Verify if the roof has moisture problems or excessive porosity.

3.2.2 Asphaltic Roofing Membrane:

1. Scrape off all exposed excess liquid asphalt and other contaminants. Remove all loose stones in BUR systems until obtaining a solid substrate of asphalt and embedded stone.
2. For granulated asphaltic membranes, prepare a micro-topping mix with BULL-BOND® SABAKRETE™. Apply the polymeric micro-topping at a thickness of 1/16" across the entire roof surface including the parapet walls. Apply the mix using a squeegee, broom or slurry hand brush. Allow this cementitious layer to dry for 24 hours with air curing.

**In the case of other types of asphaltic membrane finishes it is mandatory to conduct a field adhesion test. Contact CONSPRO Corp. for technical assistance.*

3.2.3 Metal Roof:

1. Replace all metal panels with excessive rust and loss of integrity. Tighten all loose fasteners and replace stripped fasteners with an oversized version of the same fastener. Maintain the original fastening pattern design.
2. Identify, measure and mark all the metal panel seams in the roof. Tightly fasten all metal panels with seam gaps greater than 1/8" with stitch screw fasteners to reduce this gap as much as possible.
3. Loose scale and rust must be mechanically removed.
4. On corroded surfaces apply, an approved corrosion inhibitor and rust converter with a heavy-duty mop. Pressure wash the metal surface after this step.

3.3 SEALING CRACKS, JOINTS AND SEAMS:

3.3.1 Concrete Roof:

- 1a. Steps to repair cracks with a thickness of 20 mils or more:
 - a. All cracks must be routed at 1/4" wide by 1/4" deep with an angle grinder using a diamond or carbide cutting blade.
 - b. Eliminate all dust on opened cracks using a vacuum cleaner or other dry method.
 - c. Apply a crack sealant inside the opened crack filling it entirely immediately use a spatula to press the excess sealant material towards the crack, leaving a band of 1"-2" wide.
 - d. Allow the sealant to cure for 24 hours or until 100% cured.
- 1b. Options to repair visible hairline cracks thinner than 20 mils:
 - Option a. Follow above procedure (1A)
 - Option b. Using a spatula apply a 2" wide band with the crack sealant to a thickness of 30 mils.
 - Option c. Saturate the crack with BULL-BOND® Primer Plus™ or with a dilution of BULL-BOND® Elasto Acryl™ with water at a ratio of 1:1.

3.3.2 Asphaltic Roofing Membrane:

1. Apply a seam reinforcement detail coat along all seams, interfaces, termination points and joints. This consists of applying a 9" wide coat of PRO-SIL™ Step A – Primer. Let it dry completely, then apply a 9" wide coat of PRO-SIL™ Step B – Top Coat with a brush or roller at 60 ft²/gallon (300 ft²/pail) and immediately place the 6" roll of roof fabric over the wet detail coat of PRO-SIL™ Top Coat. Stretch the fabric, eliminating all wrinkles and air voids; do this until completely saturated. Apply a subsequent 9" wide detail coat of PRO-SIL™ Top Coat at 100 ft²/gallon (650 ft²/pail), making sure that the roof fabric is completely saturated at the reinforced areas.

3.3.3 Metal Roof:

1. Apply joint/seam sealant along all horizontal and vertical metal panel seams and interfaces filling them entirely. Immediately after, use a spatula to smooth out the sealant material and press down any excess material towards the seam/joint leaving a band 1"-2" wide.
2. Allow the sealant to cure for 24 hours or until 100% cured. *All cracks, joints, seams and interfaces present on the roof must be completely repaired before applying the PRO-SIL™ coating system.

**All cracks, joints, seams and interfaces present on the roof must be completely repaired before applying the BULL-BOND® PRO-SIL™ coating.*

3.4 CORRECTING DRAINAGE, WATER PONDING AREAS, SURFACE IMPERFECTIONS AND CONCRETE DUSTING:

1. Make sure that the roof drainage system is functioning properly.
 - a. Add drains where necessary and when feasible.
 - b. Lower concrete elevation between drains and low points to obtain efficient drainage when feasible.
 - c. Make channels between drains and low points when feasible. If a drainage channel is created with a chipping hammer or chisel, always give a smooth finish to the concrete surface using a repair mortar with BULL-BOND® SABAKRETE™.
 - d. Lower the elevation of any drain if necessary.
2. Correct any area where ponding water remains. Eliminate all water ponding using a repair mortar mix with BULL-BOND® SABAKRETE™ or BULL-BOND® PRO-LEVEL™. Allow all water ponding repairs cure for at least 3 days.

**Read the application instructions of BULL-BOND® SABAKRETE™ repair mortar mix for water ponding or BULL-BOND® PRO-LEVEL™ available on our website: www.bullbond.com.*

3. Correct all surface imperfections, defects and/or unevenness on the roof surface profile (exposed aggregate, excessive roughness, pits, holes, craters, etc.) using a repair mortar mix with BULL-BOND® SABAKRETE™.
4. Correct any concrete dusting and/or loose granules by resurfacing the roof using a micro-topping mix with BULL-BOND® SABAKRETE™, leaving a 1/32"-1/8" cementitious coating using a squeegee or brush.
5. Roof drainage, all surface imperfections and areas of ponding water must be fully corrected before applying the PRO-SIL™ coating. Proper

installation requires a good slope and absolutely no water ponding issues. Ensure that all the concrete surface meets a CSP profile of 1-4.

** Before proceeding with the application of the PRO-SIL™ coating, ensure that there is good slope and absolutely no water ponding. Make sure that the substrate and all repairs are clean, firm, dry (cured) and fully adhered.*

3.5 WATERPROOFING DETAILING AND TRANSITIONS:

1. Apply a joint sealant around any penetration or protrusion on the roof including all screws (bolts), pipes, rods, drains, roof mounted equipment and skylight installations.
2. Apply the joint sealant along all interfaces of the parapet walls, including horizontal (between roof and parapet) and vertical (between parapet and parapet).
3. Let sealants cure for at least 24 hours or until 100% cured.
4. Apply a seam reinforcement detail coat along all cracks, joints, seams and interfaces, applying a 9" wide coat of the adequate primer for the given surface at 250 ft²/gallon (1250 ft²/pail) followed by a 9" wide coat of an approved polyurethane basecoat or PRO-SIL™ Top Coat (Step B) with a brush or roller at 65 ft²/gallon (325 ft²/pail) and immediately place a 6" roll of roof fabric over the wet detail coat of PRO-SIL™ Top Coat (Step B). Once in place incorporate the roof fabric into the wet coat with a brush or dry roller stretching the fabric, eliminating all wrinkles and air voids. Apply a subsequent detail coat of PRO-SIL™ Top Coat (Step B) to the reinforced seam at 65 ft²/gallon (325 ft²/pail) making sure that the roof fabric is completely saturated.

3.6 PRIMING

3.6.1 Previously Coated Roof, Concrete Roof or Asphaltic Roofing Membrane:

1. Apply one coat of PRO-SIL™ Primer (Step A) to the entire roof surface at 200 ft²/gallon (1000 ft²/pail). If necessary, spread any product build-up (puddles) with a brush or broom. Let dry at least 2 hours.
2. Apply a second coat of PRO-SIL™ Primer (Step A) to the entire roof surface at 200 ft²/gallon (1000 ft²/pail). If it is necessary, spread any product build-up (puddles) with a brush or broom.
3. Let dry at least 4 hours. Apply a subsequent PRO-SIL™ Top Coat (Step B) within 48 hours.

3.6.2 Metal Roof:

1. Apply one coat of BULL-BOND® METAL PRIMER™ to the entire roof surface at 250 ft²/gallon (1250 ft²/pail). If it is necessary, spread any product build-up (puddles) with a brush or broom. Product must dry completely, leave for at least 4 hours.
2. Apply a subsequent PRO-SIL™ Top Coat (Step B) within 48 hours.

**If the waterproofing project is over a previously coated roof, bare concrete, asphaltic roofing membranes, galvanized steel and other metal surfaces adequate priming is compulsory for warranty purposes. Adhesion testing is strongly recommended before Top Coat application.*

3.7 APPLICATION

1. Use product when substrate is completely dry without moisture, when ambient, material and surface temperature are below 105°F and over 75°F. Do not use product if precipitation or heavy dew is expected. Use with adequate ventilation.
2. Mix PRO-SIL™ Top Coat (Step B) thoroughly before and during application (4 minute paddle mixing).
3. Apply one coat of PRO-SIL™ Top Coat (Step B) at 73 ft²/gallon (365 ft²/pail) or two coats at 150 ft²/gallon (750 ft²/pail) designate the area of application per product volume and spread evenly using a notched squeegee. Give proper termination using a roller (1 3/4" nap), good quality nylon bristle brush which results in a wet film thickness of 21 mils. If rolled, back brush the first coat to fill any pinholes in the surface.
4. Allow to dry at least 12 hours.
5. Apply more coats if necessary.
6. All coats must produce a minimum total dry film thickness of 20 mils to comply with the waterproofing warranty requirements.

**Choose a sunny day to apply the fluid-applied waterproofing coating. It is not advisable to start the waterproofing product application after 3:00 pm. Before applying a second coat of PRO-SIL™ Top Coat (Silicone over Silicone) the surface must be totally dry, with absolutely no residues of water or morning dew. If more than 24 hours have passed since the application of the first coat of silicone and / or the silicone surface is contaminated with dust or foreign materials it is compulsory that the area is properly cleaned with xylene or an approved solvent using the required safety equipment.*

3.8 CLEANING

Clean all equipment preferably with Mineral Spirits immediately after use (other cleaning solvents may be Acetone or Xylene).

PART 4: PRECAUTIONS

Avoid breathing product vapors or mist. Use only with adequate ventilation. Can cause eye, nose and throat irritation. Could be harmful if swallowed. KEEP OUT OF REACH OF CHILDREN. Carefully read and follow all cautions and warnings on product label.

CONSPRO CORP. warrants, subject to the terms and limitations hereof, that the Bull-Bond® PRO-SIL will perform as specified in the product label and comply with the specs set forth on the product technical data sheet for a period of 10 years from the date of purchase when applied in accordance with all application procedures outlined in the product's technical data sheets. Failure to follow all currently published installation instructions will render the warranty null and void. 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.

PART 5: WARRANTY GUARANTEE

CONSPRO CORP. warrants, subject to the terms and limitations hereof, that the Bull-Bond® PRO-SIL will perform as specified in the product label and comply with the specs set forth on the product technical data sheet for a period of 10 years from the date of purchase when applied in accordance with all application procedures outlined in the product's technical data sheets. Failure to follow all currently published installation instructions will render the warranty null and void. 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.

CONSPRO CORP.'S LIABILITY

CONSPRO CORP.'s liability is strictly limited to refund the purchase price or to replace the defective material with an equal or similar product.

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 or outside the specified 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.

WARRANTY EXCLUSIONS

Warranty is invalidated by poor workmanship not in accordance with written product installation instructions, product installation guidelines and/or 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,
2. Misuse, abuse or negligence,
3. Lack of maintenance,
4. Standing or pooling water,
5. Fire, faulty construction or design, inadequate drainage or other failure of the structure,
6. Failure of the building substrate,
7. Defects, blisters or delamination in the materials, substrate, coating or systems to which the Product is applied,
8. Impact of foreign objects, or
9. Discoloration or damage that is solely cosmetic unless specified in product warranty.

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 with the use and application of the product.

NON-ASSIGNABILITY

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

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.

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Check our website for the latest version of the Technical Data Sheet



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