

CROMAR 

HYDROSIL

Professional Grade 100% Silicone Roof Coating



Application Guide

 **WARRANTY**

HYDROSIL

Professional Grade 100% Silicone Roof Coating



Hydrosil is a highly reflective Fluid Applied Professional Grade Silicone Coating System used to coat all existing roofing substrates.

System includes:

HYDROSIL PROFESSIONAL LIQUID SILICONE ROOF COATING is a professional grade 100% Silicone roof coating. This product is a high performance, solvent based, high solids, single component, moisture cure liquid applied silicone coating. HYDROSIL Professional liquid silicone is an elastomeric yet vapour permeable membrane exhibiting outstanding weathering and water resistance for application to most common roofing substrates.

HYDROSIL SEAM SEALER & DETAILER is a premium silicone multi-purpose mastic for detailing work & to cover all joints/seams prior to the application of Hydrosil (suitable for all roofing substrates). Upon cure, Seam Sealer & Detailer forms a durable, breathable and weatherproof barrier that is highly resistant to degradation from UV and natural weathering.

HYDROSIL HEAVY DUTY REINFORCEMENT ROLL is non-woven, spun bonded 100% polyester and used with HYDROSIL SEAM SEALER & DETAILER to reinforce seams, penetrations, joints or transitions that are subjected to high shear.



DELIVERY, STORAGE & HANDLING

1. Store **HYDROSIL PROFESSIONAL LIQUID SILICONE** roof coating containers between 1°C and 23°C. Other materials shall be stored in accordance with the appropriate material's TDS.
2. Keep all products out of direct sunlight and protected from extreme temperatures.
3. SDS and TDS for all materials used on projects should be kept on site and reviewed by appropriate personnel before use.

PROJECT CONDITIONS

1. Cover all surfaces not to be prepared and/or coated to prevent damage.
2. Review existing and imminent weather conditions (including potential for extreme temperatures, relative humidity, frost, dew, and precipitation) to assure that the coating will have sufficient curing time.
3. Temperature at the time of application of the **HYDROSIL PROFESSIONAL LIQUID SILICONE** roof coating application should be above 5°C to allow coating to be cured properly.
4. Protect **HYDROSIL PROFESSIONAL LIQUID SILICONE** roof coating from foot traffic or other potential abuse during the curing process. The coating is considered cured when it is tack-free and sufficiently durable to withstand foot traffic.
5. A moisture scan may be required to validate

HYDROSIL PROFESSIONAL LIQUID SILICONE ROOF COATING: DO NOT DILUTE, THIN OR FREEZE THE PRODUCT[S]

that the underlying roof system insulation is moisture free.

6. Air intake, vents, blowers, air conditioning units and evaporative coolers shall be shut down for the entire project.

7. Treatment of Ponding Water Areas: [HYDROSIL PROFESSIONAL LIQUID SILICONE](#) coating withstands ponded water up to 72 hours, however ponding water on any roof is undesirable and we recommend that all roof systems be designed and built to ensure positive drainage. Corrective action should be considered, prior to application of [HYDROSIL PROFESSIONAL LIQUID SILICONE](#) roof coating, to correct existing ponding conditions and/or drainage deficiencies.

SURFACE PREPARATION

1. Preparation of the roof substrate is the responsibility of the installer, who shall address and correct all the conditions listed in this section. Examine substrates to receive new roofing. Do not proceed with the installation of the Coating System until unsatisfactory conditions have been corrected.

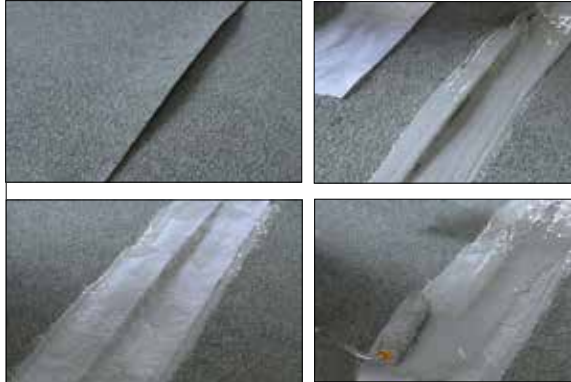
2. All areas that are to be coated or repaired must be clean, dry and free of dust, dirt, grease, wax, or other incompatible substances to promote satisfactory adhesion.

HYDROSIL SEAM SEALER & DETAILER APPLICATION

1. After completion of substrate preparation all flashing details, joints & seams shall be covered with [HYDROSIL Seam Sealer & Detailer](#) at 3-4mm thick and shall be feathered at the edges for the water to flow over the various flashing details.

2. Blisters/Splits: Large splits/blisters are required to be repaired use [HYDROSIL Heavy Duty Reinforcing fabric](#) with [HYDROSIL Seam Sealer & Detailer](#) at 1.5 - 2 mm thick in a three-course fashion and spread to 5 -10 cm beyond the splits/blister areas.

3. Roofing Felt Repair: Thoroughly inspect the roof substrates for defects (holes and openings). For repairs over 3 mm wide, use [HYDROSIL Heavy Duty Reinforcing fabric](#) with [HYDROSIL Seam Sealer & Detailer](#) at 1.5cm thick in a three-course fashion and spread to 5 -10 cm beyond the repaired areas.



4. Roof Drains: Remove clamping ring and clean all existing build-up from around the drains and sumps. Apply [HYDROSIL Seam Sealer & Detailer](#) across the entire drain/sump area. Extend the application into the drain bowl from centre of drain onto the deck 15cm beyond drain sump. Allow to cure. Replace clamping ring. The silicone coat application shall be applied over the [HYDROSIL Seam Sealer & Detailer](#).

5. Curb Flashings: All curb flashings shall be dressed in at least a 5 cm wide x 3-4 mm thick of [HYDROSIL Seam Sealer & Detailer](#).

6. Fasteners: Encapsulate all fasteners using [HYDROSIL Seam Sealer & Detailer](#) ensuring a water tight seal from the base to the top of the fastener.

7. Penetrations: [HYDROSIL Seam Sealer & Detailer](#) shall be applied around the base of the penetration, extending at least 10 cm onto the vertical and 10 cm onto the base. Use additional [HYDROSIL Seam Sealer & Detailer](#) as necessary to accommodate the shape of the penetration.

We would advise carrying out a patch test before full scale application.



Scan to download the guide

- 8. Seams:** All seams and areas around roof protrusions (vents, scuttle hatches, etc.) are to be treated with **HYDROSIL Seam Sealer & Detailer** at 3-4 cm thick to achieve a watertight reinforced seal.
- 9. Pitch Pans:** Pitch pans shall be covered using **HYDROSIL Seam Sealer & Detailer**.
- 10. Curbed AC Units:** All curb flashings shall be covered with at least a 5 cm wide x 3-4 mm thick of **HYDROSIL Seam Sealer & Detailer** Seam Sealer. The perimeter shall be flashed with **HYDROSIL Seam Sealer & Detailer** Seam Sealer.

- When product is in 18.9 Ltr pails, use a 3" min diameter-mixing blade. Hand mixing with a suitable mixing blade is acceptable. **DO NOT OVER-MIX.**
- Containers are packaged with a layer of nitrogen gas to keep latent moisture from prematurely starting the curing process.



- After opening a container, apply immediately.

HYDROSIL PROFESSIONAL LIQUID SILICONE ROOF COATING APPLICATION

- HYDROSIL PROFESSIONAL LIQUID SILICONE** Coating may be sprayed, brushed, or rolled.
- Do not apply coating when moisture is present on the substrate or if rain is expected before coating will properly cure.
- Wind barriers shall be used if wind conditions could affect the quality of the material being applied.
- The recommended litres for minimum coverage rate / thickness is a guideline and should be verified by the contractor to ensure that the minimum coverage rate / thickness is applied to the roof surface.
- Coating must be evenly applied and pinhole-free.
- Coating must be extended beyond the substrate to create a self-terminating flashing.

Minimum Application Coverage

- HYDROSIL PROFESSIONAL LIQUID SILICONE** should be applied at the recommended coverage of 1L/1.25sqm (wet coating thickness 0.74mm).
- Application rates must be checked periodically to assure proper coating thickness. This may be done with a wet film gauge, or by checking

- 11. Skylights** All exposed skylight fasteners shall be covered with **HYDROSIL Seam Sealer & Detailer**. All curbed corners joints shall be covered with **HYDROSIL Seam Sealer & Detailer** at least 5 cm wide x 3-4 mm thick.
- 12. Preliminary Work / Flashing Details** for problem areas (e.g., gaps, cracks, fish mouths, air pockets, etc.) before proceeding to the application of **HYDROSIL PROFESSIONAL LIQUID SILICONE** coating.

Weather Restrictions

HYDROSIL PROFESSIONAL LIQUID SILICONE coating is not to be used when weather conditions are below 5°C, or when there is a chance that temperatures will fall below 0°C within a 24-hour period after application.

HYDROSIL PROFESSIONAL LIQUID SILICONE ROOF COATING: DO NOT DILUTE, THIN OR FREEZE THE PRODUCT[S]



8. The HYDROSIL PROFESSIONAL LIQUID SILICONE coating shall completely cover all expansion joint covers, parapets and flashings applied at an application rate designed to achieve the recommended coverage of 1L/1.25sqm (wet coating thickness 0.74mm).

SPRAY APPLICATION

HYDROSIL PROFESSIONAL LIQUID SILICONE Silicone Coating Pump Minimum Specification to Apply HYDROSIL PROFESSIONAL LIQUID SILICONE:

- 1.** High-pressure airless pump capable of producing a minimum of 4000 PSI at the spray gun head should be used.
- 2.** The pump should have a min of 11 litres per minute output and be fed by a 5:1 transfer pump to prevent cavitation.
- 3.** Always use components rated for pump pressure.
- 4.** Hoses should be BUNA-N jacketed for prevention of moisture contamination.
- 5.** Hoses should have a minimum I.D. of 3/4" and an adequate working pressure.
- 6.** The spray gun should be high pressure (5000 PSI) with reverse-a-clean spray tip.
- 7.** The spray gun should also have a minimum orifice of .022 and a 50° fan tip.
- 8.** DO NOT USE hose that has been used for acrylics or emulsions, as the liner may absorb moisture and initiate the silicone curing process.
- 9.** Spray HYDROSIL PROFESSIONAL LIQUID SILICONE Coating at an application rate designed to achieve the recommended coverage of 1L/1.25sqm (wet coating thickness 0.74mm) for the project. Contractor needs to figure losses due to surface texture, which will increase estimated material requirements.
- 10.** Pay special attention to overspray, which can texture or discolour finished sections. Wind direction should conduct overspray away from finished roofing surfaces.

coverage of a known quantity.

3. The contractor should estimate coating requirements based on actual experience and needs to figure losses due to applicator experience, surface texture, wind, waste, and other factors increasing estimated litres required.

POURED-IN-PLACE APPLICATION

HYDROSIL PROFESSIONAL LIQUID SILICONE Coating:

- 1.** Use 1 - 2.5 cm rollers.
- 2.** Use smooth or notched squeegee
- 3.** Use short bristle brush/roller on smooth substrates.
- 4.** Use longer bristle brush/roller on rough substrates.
- 5.** After the HYDROSIL SEAM SEALER & DETAILER has thoroughly cured, pour base coat onto roof in a narrow pass for approximately 6 meters and spread with the squeegee or 45 cm applicator brush at an application rate designed to achieve the recommended coverage of 1L/1.25sqm (wet coating thickness 0.74mm)
- 6.** Immediately back-roll the area evenly with an 23-45 cm x 1-2.5 cm roller, perpendicular to the squeegee pattern.

Care should be taken to back-roll immediately before coating begins to dry.

7. Note: Temperature, coating type, applicator technique, substrate, as well as other factors will affect coating thickness.

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FIELD QUALITY CONTROL

1. Maintain Job Progress Report / Daily Log of work completed as required to ensure installation is in accordance with manufacturer requirements.
2. Provide on-the-job inspections, technical assistance and material application guidance as may be necessary to complete roofing material application.

JOB COMPLETION

1. Inspect completed coating system and correct all defects to meet the specification and/or warranty requirements.
2. Transparent or Thin Areas: If areas appear to be undercoated, recoating may be needed to ensure final thickness to meet the Cromar Building Products Specifications recommended coverage of 1L/1.25sqm (wet coating thickness 0.74mm).
3. Delamination: Verify that all coated areas appear to be fully adhered to the substrate. Complete a visual inspection for typical signs of poor adhesion such as flaking, blistering etc. Recoating will be required if such areas are apparent.
4. Pin Holing: Certain job or site conditions may result in pin holing or off gassing during curing or cause pin holes in the substrate. Again, a visual inspection looking for typical signs of off gassing such as excessive pockmarks, pinholes etc. should be done.
5. Texture Finish: Heavy patterns, blistering, "skinning," etc. may appear in the final finish. Check with Cromar Building Products Technical Representative for remedial advice.
6. Restrict foot traffic and equipment movement on the completed coating system to essential personnel and only after 72 hours of the completion of the coating application. Provide appropriate protection against traffic and construction activities on completed roofs. Damage to the roof by other trades shall not be the responsibility of Cromar Building Products.

GENERAL HOUSEKEEPING

1. Installer shall take special care when moving spray hoses and other equipment on the roof to prevent damage to the flashing work and encapsulated fastener heads.

REPAIRS

If the **HYDROSIL PROFESSIONAL LIQUID SILICONE** Coating is damaged or punctured, repairs are to be performed using **HYDROSIL Seam Sealer & Detailer** as follows:

- a. Damaged areas are to be cut, cleaned and dried.
- b. Apply **HYDROSIL Seam Sealer & Detailer** and feather out onto the existing **HYDROSIL PROFESSIONAL LIQUID SILICONE** coating with a minimum of 5-10 cm beyond the existing coating.

CLEAN UP

1. Remove masking and protection tapes.
2. The HVAC vents and units can be opened and restarted once the spray operation is complete.
3. Remove all roof related rubbish and debris from jobsite.
4. Dispose of containers in accordance with local regulations.
5. For application questions, please contact Cromar Building Products 01977 663 133.

LIMITATIONS

HYDROSIL PROFESSIONAL LIQUID SILICONE ROOF COATING should not be considered for:

1. Use on pedestrian, deck or frequent traffic bearing surfaces.
2. Cold storage roofing application without vapour barrier, cryogenic tank applications, or continuous water immersion service.
3. Unprepared surfaces including but not limited to those that are wet, dusty, oily, mildewed, heavily chalked, blistered or otherwise structurally unsound.
4. Building materials that might bleed oil or solvents. These include, but are not limited to, certain EPDM, tapes, failed sealants, and some asphaltic/mastic materials unless appropriate

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preparation is done. Consult Cromar Building Products technical services for recommendations.

5. Surfaces where adhesion has not been verified by testing.

6. Inclement weather may negatively affect uncured **HYDROSIL PROFESSIONAL LIQUID SILICONE** roof coating by displacement of uncured material; therefore, application of coating should not proceed if heavy rain, hail or snowfall is impending or expected within 24 hours of application.

7. **HYDROSIL PROFESSIONAL LIQUID SILICONE** roof coating requires atmospheric moisture for propagation of cure thus it is not suitable for use in totally confined spaces.

IMPORTANT:

The applicators strict adherence to this specification is the only way Cromar can ensure that this product will perform as intended. Accordingly, any changes made to specifications must be reviewed, approved in writing and signed by Cromar Building Technical Services prior to application.



10 year material warranty, warrants the purchaser that Hydrosil will be free from proven product defects for a period of 10 years from application date. For further information please speak to the Cromar training team.

What are the recommended coverage rates?

The minimum application rate of HydroSil is a recommended coverage of 1L/1.25sqm (wet coating thickness 0.74mm).

How quickly will Hydrosil Silicone Coating cure?

As a moisture cure coating, the Hydrosil Silicone Coating goes from wet to "dry" through the catalyst reaction of ambient and roof temperature (heat) and humidity. Silicone will cure marginally faster in the warmer climates due to humidity and more slowly in colder climates due to reduced heat.

The product containers are packaged with a layer of nitrogen gas to keep latent moisture from prematurely starting the curing process. After opening a container, apply immediately. The coating will be dry to-touch in 2-8 hours and should be completely cured and a walkable surface in no more than 72 hours depending on weather conditions (such as temperature and humidity). Be sure that rain is not forecasted during application window or for at least 1 hour after application has ended.

What typical issues could cause failures?

Latent moisture in the roofing deck is the primary cause of blisters as the moisture tries to migrate up through the coating. Silicone has low permeability preventing off-gassing from escaping. Insufficient sealing of the seams in combination with insufficient coating coverage will increase the potential for failure. Special attention should be paid to the penetrations, vents, transitions applying the mastic seam sealer properly before coating with the silicone. Preparation is key.

Do I need to mix Hydrosil Silicone Coating?

When product is in 18.9 Liter pails, use a 3inch min diameter-mixing blade. Hand mixing with a suitable mixing blade is acceptable. When product is in drums, use a 6inch minimum diameter-mixing blade. DO NOT OVER-MIX. (Overmixing introduces moisture from the air into the coating speeding the curing process.)

Are there any health & safety risks that I should be aware of and should I wear PPE?

Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Store in a well-ventilated place. Keep cool. Store locked up.

Are there any substrates the need any extra preparation prior to product application?

Preparation is the key step in all applications over all substrates. Adhesion of silicone to asphalt is tenacious (always conduct adhesion test) and no primer is needed other than to prevent staining of top coat.

Any rusted areas on metal substrates should be removed (best as possible) before coating.

Is the product trafficable/load bearing?

The product is not specified for plaza decks, balconies, etc., (Silicone has elastomeric qualities allowing it to move (elongation) with the expansion/contraction of the roof deck).

Can an anti-slip product be added, if so what and how?

Walkable decks typically require "harder" coatings with far less elongation. But as a roof coating you can broadcast granules into the wet coating creating a walkable safety deck.

Any advice for cleaning application tools?

Application tools can be cleaned with Acetone. Do not use water!