

CCC/ 100/ PSC 4010 Smart Roof System

CCC/100/ 4010 Smart Roof is a propriety, high build, low gloss, acrylic elastomeric cold roofing system. When applied as directed at 24 and 16 mils wet film thickness per coat over primed metal surface bridges minor surface imperfections, hairline cracks, providing outstanding durability and long lasting protection. It has superior aging characteristics eliminating the causes of ruptures, cracks and de lamination. It withstands substrate movement and accommodates rapid changes in temperature. **CCC/100 / PSC 4010 Smart Roof** allows the substrate to breathe, therefore the supporting structure underneath will not be damaged by the presence of moisture and activated salts. When applied in accordance with the instructions outlined in the Product information Sheets CCC/100 produces a tough monolithic, fungi and mildew resistant solar reflective, UV resistant coating which expands and contracts with the underlying structure. In the case of metal roofs the CCC/100 Ceramic Insulation coating will eliminate up to 95% of roof **(thermal shock)** ie: expansion / contraction, due to the material properties capabilities of deflecting the sun,s solar ray energy.

The molecular structure of **CCC/100 / PSC / 4010 Smart Roof** is perfectly adjusted to allow it to utilize its tensile strength and elongation properties for maximum, durable and long lasting protection of roofs in harsh, hot and cold environments. The capabilities of **CCC/ 100 / PSC 4010 Smart Roof** system goes far beyond those traditional roofing systems.

Uses :

- commercial metal roofing.
- mechanical duct work.
- storage tanks, (in hot climate environments)
- metal building sidewalls.

Advantages :

- Light weight, allowing a light support structure.
- Cold applied, no fire hazard.
- UV stable, fade resistant.
- Provides a tough rubbery coating.
- Durable and seamless film resists wind driven, rain, sleet, snow, hail, mildew and airborne dirt.
- Allows substrate to breathe.
- Reduces cooling costs, and inside air temperature.
- Eliminates 95%+ roof expansion and contraction.
- Withstands extremes in thermal cycling, maintains flexibility throughout the year.
- Provides a complete waterproof roofing membrane.

CCC/100 / 4010 Smart Roof is Designed To:

- Protect roof substrates and substructures from leakage and moisture migration.
- Does not sustain micro bacterial and algae growth.
- Keep the underlying structure cool in hot climate.
- Reduce the cost of air conditioning in hot climate.
- Allows the roof substrate to breathe, thus protecting from costly moisture migration.
- Reduces surface temperature.
- Reflects harmful UV sunlight.
- Reduces thermal shock.

How does CCC/100/ PSC 4010 /Smart Roof Perform:

- It bonds to substrate and becomes an integral part of the structure.
- It is liquid applied to form a seamless protection barrier.
- All mechanical roof penetrations are seamlessly incorporated into the roof surface.
- Optimal tensile strength and elongation properties allow it to expand and contract with freeze thaw conditions while bridging cracks in the substrate up to 1.16”

General Data :

Description	Performance	Test Method	Requirement
Type	Acrylic electrometric		
Volume Solids	57%	ASTM D2697	>50%
Weight Solids	69%	ASTM 1644	>60%
Initial Elongation	>250%	ASTM D2370	>100%
Initial Tensile Strength	>230 psi	ASTM D2370	>200 psi
Initial Reflectance	>84%	ASTM D2824	
Specific Gravity	1.41 g/cm ³	ASTM D1475	
VOC	>20 g/L		
Weight per USG	11.7 lbs./ gallon		
Flash Point	Non applicable		
Method of Application;	Brush, Roll ,Spray		
Film Thickness	20 mils WFT. Per coat		
Drying Time @ 50% R/H	@20 C (68F Recoat - 12 hours. Full Cure -48 hours.		
Dries by	Evaporation, coalescence		
Viscosity	25,000 cps. 6 rpm. (Brookfield, 20 C)		
Thinner	Water (do not thin (except for priming purposes 10% Max.)		
Number of Coats	2 coats over primer (if required)		

Limitations :

- Do not apply **CCC/ 100 / PSC / 4010 Smart Roof** in temperatures below 5 C (41 F)
- Do not apply **CCC/100 / PSC 4010 Smart Roof** if precipitation or freezing temperatures are Expected.
- Ensure that a minimum of 4 hours of daylight remains after application to allow proper UV Cure.
- The maximum operating temperature for the product is 186 C (365 F)
- The minimum operating temperature for the product is -50 C (58 F.)

System Components :

- Primer; on metal or galvanized. (not required)
- Basecoat ; apply @ a rate of 100 square feet per gallon. WFT. (wet film thickness)
- Topcoat ; apply @ a rate of 100 square feet per gallon. WFT. (wet film thickness)
- Metal Roofing (**all fasteners, joints, seams, & mechanical penetrations must be treated utilizing metal roof seaming tape.**)

Surface Preparation :

New surfaces: Metal may require acid wash if there is a presence of machine oil from manufactured processing of material.

Can be power washed @ a minimum pressure of 3000 psi. For existing **metal surfaces** with the presence of dirt,dust, oil, grease, salts, or other types of residue, power wash with a solution of 15% citrus acid, 85% water using pressure of 3000 psi. Thoroughly rinse with clean water utilizing 3000psi power washer.

Priming :

Prime porous surfaces outside of metal, such as concrete, wood; **PSC primer** 1 to 1 with clean water and apply at a rate of 0.5 gallons per 100 sq. ft. (02 L/1 m²) On granulated surfaces, dilute PSC 4010 by 10% by 10% of clean water and apply at a rate of 1 gallon / 100 sq. ft. Allow primers to dry a minimum of 45 hours.

Flashing Details :

For asphalt and modified bitumen roof surfaces, flash all roof penetrations using **PSC 4010** applying it at a wet film

thickness of approximately 25 mils. Immediately embed and brush in 6” or 12” wide reinforcing fabric ensuring that the fabric is not stretched and is wrinkle free. Cut off all fish mouths. Apply a second 25 mil coat of **CCC/100 Ceramic Insulation Coating**. Perform this procedure on all edge and vertical flashing details as needed. Remember to apply the topcoat over above applications.

Application

Apply as received in the container. Do not add other paints or solvents. Stir thoroughly prior to use. Avoid entrapping excessive quantities of air when stirring. May be applied by airless spray, power roller, conventional roller or brush. Do not apply when air and surface temperatures are below 5C (41 F) nor in damp or rainy weather. Do not apply to surfaces with excessive moisture content.

Apply a liberal coat and check application with a wet film thickness gauge to ensure the minimum wet film thickness is obtained. Polyester reinforcing fabric is to be back rolled into basecoat on even and low sloped surfaces. Steeper grades do not require reinforcing fabric. Apply topcoat within recoat window.

Power Roller

Apply generously, monitoring application frequently with a wet film thickness gauge to ensure proper wet film thickness.

Conventional Roller

Apply in two crosshatch coats at 90 degrees to each other, monitoring application frequently with a wet film thickness gauge to ensure proper wet film thickness. Keep roller saturated with material at all times. Allow the first coat to dry 6 hours @ 20 C (68 F) or until its no longer tacky and dry enough to walk on, before applying second coat. Finish off with dry roller in one direction to ensure uniform finish.

Airless Spray

Ensure that all screens in both the sprayer and paint gun have been removed prior to installing. Apply generously in a cross hatch pattern and back roll to achieve a pinhole free surface. Monitor application frequently with a wet film thickness gauge to ensure proper wet film thickness. Coverage will vary according to surface texture and profile. Use equipment capable of maintaining 2500 to 2700 psi at the tip. Orifice size: 0.017 (0.48mm) to 0.023 (0.58mm)

Thinning / Cleanup

Do not thin finishing coats; thinning will reduce the sealing ability of this product. Never add paint or solvents. Clean all equipment with clean water thoroughly. Purge sprayer, hoses and paint gun with water circulating through the sprayer for a minimum of 10 minutes.

Use completely or dispose properly. Dry, empty containers may be recycled in a can recycling program. Local disposal requirements vary; consult your sanitation department or local environmental agencies for more information on disposal options.

Substrate Temperatures	Recoat After	Full Cure
5C (41 F)	24 hours	72 hours
10C (50 F)	24 hours	72 hours
20C (68 F)	12 hours	48 hours
30C (86 F)	8 hours	30 hours

Allow primers to dry for a minimum of 4 hours, or until it will support foot traffic without tracking. For multiple coats of **PSC 4010** and **CCC/100 Ceramic Insulation Coating** generally allow to dry until the coating support foot traffic before applying the next coat.

Maintenance and Solar Reflectivity

All roofs are amaintenance item, and as such, should be inspected twice a year, in the spring and in the fall.

Excess dirt, dust or other foreign material will build up on thr roof surface and, along with normal aging and weathering, reduce solar reflectance. The coating surface may be cleaned with water and mild detergent by hand or low

pressure spray equipment. Rinse thoroughly. It is recommended that the coating surface is cleaned every two years to maximize the solar reflectance and cooling cost savings.

Energy savings from installation of **PSC 4010** and **CCC/100 Ceramic Insulation Coatings** Smart Roof are climate specific and vary from building to building. The greatest savings will occur in hot sunny climates that have a high roof surface to building volume ratio and lower levels of attic and or roof insulation.

Safety Precautions

Prior to handling this product, consult Material Safety Data Sheets (MSDS) for further detailed information.

WARRANTY

Ten (10) year limited warranty

Polymer Science Corporation warrants to the purchaser that PSC 4010 Smart Roof is manufacture red without defects. When this product is properly applied, following the directions given on Product Information Sheets and labels, the coating film will be free from peeling, blistering, cracking, or other deterioration caused by defects in materials. This warranty will apply only to roofing jobs requiring more than two hundred and fifty (250) US gallons of PSC 4010 Smart Roof to complete. This warranty will apply solely to the roofing applied in accordance with directions on PSC,s Product Information Sheets for PSC 4010 Smart Roof. This warranty may be transferred to any subsequent owner of the building to which the warranted products have been applied.

What Warranty Does Not Cover

This limited warranty applies only to defects in material. The warranty does not extend to any , peeling, mildew, blistering, cracking or other deterioration of the PSC 4010 system caused by:

1. Failure or defects in the structure or previous coating.
2. Vandalism.
3. Acts of God.
4. Abuse or negligence by the purchaser.
5. Causes other than defects in the material.

Period of Coverage

This warranty covers the purchaser of PSC 4010 Smart Roof System for a period of Ten (10) years. The ten (10) year period shall begin at the date of completion of the work and certification of inspection and approval signed by PCS,s Area Manager or authorized Representative, PCS,s Dealer and the Roofing Contractor. A written inspection certificate shall be submitted to the purchaser by PSC,s Area Manager or Authorized Representative and Roofing Contractor certifying that they have inspected and approved that the job was done according to the instructions on the Product Information Sheets and Labels. Without this certification, this warranty is null and void.

What will Polymer Science Corporation do to correct problems ?

In the event that PSC 4010 Smart Roof System fail to conform to this limited warranty, the owners remedy under this warranty and PSC,s exclusive liability will be to replace the defective material including freight to the location of the job. Material replaced do not extend the warranty period beyond the original term.

For orders or inquiries from Canada, US and Mexico call 780.539.5161 or Fax your orders to Delta T. & Protective Products Inc. customer service at 780.766.2285 Contact : Dwaine Walterhouse