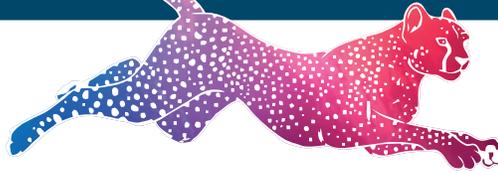




# TC-100

## INORGANIC TOPCOAT

### SOLVENT-BASED QUARTZ-BASED CLEAR COATING



October 2025, Version 01  
Technical Data Sheet

#### DESCRIPTION

**TC-100** is a solvent-based quartz-based clear coating designed to protect metal, concrete and masonry surfaces by creating an integral, long-lasting barrier that provides superior resistance to mold, mildew, moss, rust, moisture, corrosion, chlorides & salt spray, acid rain, UV damage, oxidation, galvanic corrosion, animal & bird waste damage, gum, graffiti and ice adhesion. Durable, wear resistant coating avoids common coating failures like peeling or flaking. **TC-100** can be applied over tinted or un-tinted **SEAL 250** for a complete concrete protection system

#### FEATURES

- Excellent abrasion and scratch resistance
- Excellent impact resistance
- Superior resistance to rust, moisture, corrosion, salt spray, acid rain, oxidation
- Resistant to wind drag, dirt buildup, ice buildup and animal and bird waste damage
- UV resistant
- Virtually invisible
- Reduced maintenance costs
- Extended life of the substrate
- Non-breathable vapor barrier

#### TYPICAL USES

- Can be applied on Ferrous metals including: Iron, steel, stainless steel, galvanized steel; Non-Ferrous metals including aluminum, copper and bronze (raw, powder coated, painted or primed). Concrete walls, structures, floors, masonry pavers, unglazed tile, bricks and cement block
- Moisture, corrosion/rust, oxidation, galvanic corrosion, acid rain, food and beverage acids, fuels and oils, wind drag, dirt buildup, ice buildup and animal and bird waste damage. UV stable

#### COLORS

Clear to slight amber to rose (depending on temp and humidity) always dries clear. Gloss or Satin finish. Also available with one of 20 translucent color stains

#### PACKAGING

1 quarts, 1 gallon buckets, 5 gallon pails, 55 gallon drums, 275 gallon totes

#### MIXING

Ready to use. There is no need for mixing or diluting

#### STORAGE

12 to 24 months in factory delivered, unopened drums. Store on pallets and keep away from extreme heat, freezing, and moisture. Store at temperatures between 50 °F and 80 °F (10 °C and 27 °C)

#### COVERAGE

Calculation for theoretical coverage: 640 – 800 Ft<sup>2</sup> /gal on Metal, 400 – 600 Ft<sup>2</sup> /gal on Concrete @ Recommended spread rate 2 – 2.5 mils Wet, 0.7 – 0.75 mils Dry

#### LIMITATIONS

As treated and untreated surfaces look similar, finish work on an obvious point such as a corner or mark where you have stopped. When you start work again you can apply over the dry edge without sanding

**CAUTION:** If using spray application method in an enclosed space, make certain to tent off the area being sprayed with plastic tarps to avoid spray dust from traveling and contaminating other surfaces with over spray dust. Tented and enclosed areas always require to be positively supplied with fresh air and have ventilated exhaust to outside using fans. Never spray near any open flame or any possible source of ignition such as pilot light, or anything that may spark, as this may cause ignition and explosion of the fumes and vapors. (In enclosed areas, make sure to have an observer watching the applicator for any signs of physical distress)

Wash surface with a low-pressure hose or wipe down with damp rag to remove dirt and spills. Although **TC-100** is highly scratch resistant, it is not scratch- proof. Do not use abrasive cleansers or abrasive scouring pads. If an area gets damaged or is mechanically abraded, lightly sand the area with 220 grit sandpaper and reapply touch up to **TC-100**.

If substrate is damaged, make necessary repairs first, then re-apply **TC-100**

#### SURFACE PREPARATION

Metal:

Surface must be clean, dry and in sound condition. Remove all oil, dust, grease, dirt and other foreign material from metal. Remove scale and light to medium rust using chemical cleaner. Heavy rust must be sandblasted or ground off.

Recommended: use a white rag with cleaner to wipe the surface to inspect surface condition. If the rag remains white, your surface is clean. If the rag turns dark or shows evidence of residue, clean away remaining impurities

- New Iron & Steel: Sandblast, grind or otherwise remove 100% of slag from hot rolled steel, as surface tension of coatings adhere to slag and pull away from steel, causing delamination. If desired, prime bare metal with rust and corrosion primer per manufacturer's instructions. Apply single coat of **TC-100** after primer has cured per manufacturer's instructions. Be sure to follow primer manufacturer's application time to allow **TC-100** to anchor properly. If application window has passed, abrade the surface by sanding with 220 grit sandpaper to achieve suitable anchor system for the **TC-100**

If applying **TC-100** over steel or iron that has no primer, apply two coats of **TC-100** wet over tack no more than 15 minutes apart to ensure micropores are filled properly and completely

- Iron or steel with existing primer or paint: All existing paint must be sanded down with 220 grit sandpaper or courser to get past any oxidation and to reach unoxidized paint layer. Sanding the new layer is not necessary because it is already fresh paint. Re-paint as needed. Recommended: When re-painted areas are completely dry and cured, wipe surface with cleaner, followed by wipe-down with a damp rag with fresh water. Once surface is clean and dry, apply one coat of **TC-100**
- Aluminum, Copper, Brass, Bronze, Galvanized Steel & Stainless Steel: Apply one coat of **TC-100**
- Powder Coated Metal: Inspect surface to ensure there are no breaches in the powder coating. If breach discovered, re-coat or prime with matching paint to touch up area. Apply one coat of **TC-100**

#### Concrete:

Surface must be clean, dry, and in sound condition. Remove oil, dust, grease, dirt and other foreign material. Surface that has retained oil must be completely free from further wicking action which will prevent a proper coating bond.

Remove Silicone and existing coatings. **TC-100** will not adhere to silicone or polymer-modified grout. Conduct a simple test to determine if surface previously sealed or coated, sprinkle water onto the surface. If water is absorbed and surface becomes darkens, it has not been sealed. If water beads, coating or sealer exist and must be removed before applying **TC-100**. Use appropriate cleaner to remove silicon or existing sealer. Rinse with fresh water and allow to dry until moisture content is below 13% (level of dryness required for coating bonding)

Pre-seal unsealed or porous concrete with quality no-silicon sealers to prevent concrete surface from absorbing abundance of **TC-100**, and rendering it ineffective. Recommended: **SEAL 250**.

On concrete and porous substrates use **SEAL 250** to pre-seal porous unpainted surfaces first. Over unglazed ceramic or porcelain tile mix 25% **SEAL 250** with 75% **TC-100**

- New Concrete or Masonry: Inspect for sound condition. Clean the surface of all foreign material, dirt, dust, grease, oil, loose particles, laitance, sealers, curing or release agents. Rinse with fresh water and allow to dry until moisture content is below 13% (level of dryness required for coating bonding). Smooth surfaces should be abraded with 220 grit sandpaper, sand/bead blasted or ground with a floor machine. Test surface for proper ph (7 to 9)
- Previously Painted Surfaces: Inspect for sound condition. Clean the surface of all foreign material, dirt, dust, grease, oil, loose particles, or sealers. Rinse with fresh water and allow to dry until moisture content is below 13% (level of dryness required for coating bonding). If existing paint is peeling or badly weathered, repaint may be necessary. If re-paint is required proceed with that process outlined by the paint manufacturer then apply **TC-100**, following the paint manufacturer's cure time. If re-paint is not necessary, abrading paint to 220 grit before applying **TC-100**

## APPLICATION

Stir the contents thoroughly to re-suspend the nano particles that have settled to the bottom. (You should feel a thick layer of sediment with your stir stick in the bottom of the container. This all has to be re-suspended in the liquid to ensure performance of the coating). Make certain to re-stir every 15-20 minutes to re-suspend the settling nano particles during the application process to ensure proper performance of the coating

- Spraying:

When surface preparation is complete and surface is dry and free of dust, begin application using a high volume, low pressure (HVLP) spray gun with a 1.0-1.3 size tip and the pressure set at approximately 25 to 30 psi. Spray one coat in a cross-pattern: left to right, then up and down. This will provide sufficient coverage and will help prevent holes in coverage. (Exception for one coat is on unpainted steel or iron, which requires 2 coats wet on tack) Desired wet film thickness (WFT) is approximately 2.0 to 2.5 mils.

To spray small pieces or tight locations, you can use a “Preval” sprayer. This is a small disposable sprayer that can spray any liquid and holds approximately 6 oz, which is ideal for touch ups as well. Available in the paint department of major home improvement stores, or major paint store chains

- Rolling:

Using a white, ultra-smooth high-density foam roller, pour the Metal Coat into a roller pan and completely saturate the roller. Apply in a cross-pattern; left to right, then up and down as quickly as possible, since the coating dries fast. It also gives a better looking finish if you avoid down pressure on the roller

- Brushing:

Using only a good quality China bristle brush, apply Metal Coat in a cross-pattern; up and down, then left and right. To obtain the best results, do not overwork the coating, as it dries fairly quickly. Do not bear down with the brush. Use light strokes using the tip of the brush to smooth out the coating. Desired wet film thickness (WFT) is approximately 2.0 to 2.5 mils

- Dipping:

Make sure to apply a blanket of nitrogen gas over the coating in the tank to prevent flashing of the solvents and evaporation of the product. Dip the pieces and agitate back and forth and up and down, and remove to dry rack

TECHNICAL DATA (All values @ 77 °F / 25 °C)	US	Metric
Volatile organic compounds (ASTM D2369)	< 0.83 lb./gal	< 100 gm/ liter
Theoretical coverage	640 – 800 ft <sup>2</sup> /gal @ 0.7-0.75 mils DFT	16-20 m <sup>2</sup> /liter @ 18-44 microns
Specific Gravity of materials (ASTM D792)	7.36 lbs./gal	0.88 kg/ liter
Shelf life @ 77 °F /25 °C	12-24 Months	12-24 Months
Flash point - pensky martin closed cup	15 °F	-9 °C
Application Temperature	45 – 105 °F	7 – 77 °C
Abrasion Resistance CS-17 1000 Cycles (ASTM 4060)	23 mg Loss	
Surface Flammability (ASTM E162)	Heat Index 0 (Best Result)	
Adhesion to 800 Grit Polished Concrete (ASTM 4541)	1200+ psi Cohesive Concrete Failure	
Accelerated UV Exposure 1000 hrs. (ASTM G154)	dE: <0.5	
Thermal Cycling (ASTM 6944) 50C - 4 Hours Immersion @ 25C - 4 Hours -29C - 16 Hours	No Effect	
Solvent Resistance - MEK (ASTM 4752)	1000 Rubs - No Effect	
Shore D Hardness (ASTM D2240)	72 +/- 3	
Operating Temperature	-200 - 350 °F	

PROCESSING PROPERTIES (Under standard lab conditions)	
Touch Dry	2-3 hours
Dry Through	3-5 hours
Recoat interval	10-20 minutes
To be walked on	Min 8-12 hours
To be exposed to moisture	Min 3 days
Full Cure	7 Days
<i>Properties and values are highly dependent on equipment, spray gun, mix chamber temperature, pressure and related parameters. Values are slightly different for clear. Variations are possible and expected</i>	