

TECHNICAL DATA SHEET

ResinTech TCU — Aliphatic Top Coat Urethane (Satin Finish)
Two-Component, Water-Based Polyurethane Protective Coating

RT-TCU-TDS-2.3 · For Professional Use Only · Typical values at 23 °C / 50% RH unless noted

TWO-COMPONENT

WATER-BASED

UV-STABLE SATIN

LOW VOC < 100 g/L

Product Description

ResinTech TCU is a two-component, water-based **aliphatic polyurethane topcoat** engineered to provide enhanced surface protection for polished concrete and resinous flooring systems.

TCU forms a crosslinked urethane film that delivers improved wear resistance, stain protection, and durability compared to conventional acrylic or penetrating polished-concrete sealers. Unlike sacrificial sealers, TCU provides a measurable film build and controlled satin sheen suitable for commercial and institutional environments.

CSI MasterFormat

- 09 67 23 — Resinous Flooring
- 09 91 23 — Interior Clear Protective Coatings

Intended Performance

TCU is recommended where polished concrete requires:

- Greater abrasion resistance
- Extended maintenance intervals
- Improved stain resistance
- Enhanced surface durability
- Controlled satin architectural finish

It is designed as a performance upgrade over traditional sealer-based polished-concrete systems.

Key Features & Benefits

- Aliphatic polyurethane — UV stable and non-yellowing
- Satin finish with controlled gloss retention
- Forms a continuous crosslinked protective film
- Improved wear resistance versus acrylic sealers
- Enhanced resistance to common commercial contaminants
- Low-VOC formulation
- Low odour during installation
- Compatible with ResinTech flooring systems

Typical Applications

- Polished concrete (retail, commercial, institutional)

- Showrooms and high-traffic interiors
- Decorative overlays
- Grind-and-seal systems
- Light-duty garage applications
- Topcoat for epoxy or polyurethane flooring systems

Substrate Requirements

Concrete must be:

- Minimum 28 days cured
- Mechanically prepared (ICRI CSP 2–3 recommended)
- Application temperature (recommended): 10–30 °C
- Clean, dry, and free of contaminants
- Substrate temperature minimum 3 °C above dew point

Substrate moisture conditions must be evaluated prior to application in accordance with project specifications.

Mixing Instructions

Mix ratio (by volume)	5 L Part A : 1 L Part B
Step 1	Pre-mix Part A.
Step 2	Add the full contents of Part B into Part A.
Step 3	Mix using a low-speed drill (300–400 rpm) for 2–3 minutes until homogeneous.
Step 4	Do not mix partial kits.
Pot life (20 °C)	Approximately 30–40 minutes.

Typical Physical & Performance Properties

23 °C / 50% RH — typical laboratory values.

Property	Test method	Typical range
Solids content (mixed)	ASTM D1259	~75%
VOC content	SCAQMD Rule 1113	< 100 g/L
Tensile strength	ASTM D638	2–4 MPa
Elongation at break	ASTM D638	20–40%
Abrasion resistance	ASTM D4060 (CS17, 1000 cycles)	≤ 75 mg
Hardness	ASTM D2240	Shore D 65–75
Bond strength to concrete	ASTM D7234	Develops strong mechanical adhesion to properly prepared concrete substrates

Values shown are typical and may vary depending on application conditions and substrate characteristics.

Working & Curing Characteristics

Typical at 20 °C / 50% RH.

Condition	Approximate time
Pot life	30–40 minutes
Dry to touch	3–4 hours
Tack-free	6–8 hours
Optimal recoat window	10–12 hours
Light foot traffic	14–16 hours
Heavy foot traffic	24–30 hours
Vehicular traffic (rubber-tired)	2–3 days
Full cure	4–5 days
Full chemical cure	5–7 days

Curing rate is influenced by temperature, humidity, airflow, and film thickness.

Application Guidelines

- Apply using a lint-free roller.
- Apply thin, uniform coats.
- Two coats recommended for optimal performance.
- Mechanical abrasion required if the recoat window is exceeded (max ~18 hours).
- Ensure adequate ventilation during curing.

Coverage

Coverage varies depending on surface porosity and film thickness. Typical application yields approximately:

- ~700 sq. ft per 6 L (~1.6 US gal) mixed unit per coat (actual coverage depends on surface profile and absorption)

Apply in controlled thin coats to achieve a uniform satin appearance.

Packaging

Part A	5 L (1.321 US gal)
Part B	1 L (0.264 US gal)
Supply	Sold as a complete kit only.

Storage & Shelf Life

- Store between 10 °C and 25 °C.
- Protect from freezing.
- Shelf life approximately 12 months unopened.

Limitations

- Not intended as a waterproofing membrane.
- Not designed for active crack bridging.
- Not recommended for continuous exterior horizontal exposure.
- Protect from moisture for a minimum of 24 hours after application.

Disclaimer

The information provided is based on laboratory evaluation and typical application experience. Actual performance may vary depending on surface preparation, environmental conditions, and installation practices. Suitability for specific applications remains the responsibility of the user. ResinTech offers no product warranty; confirm all values against the current TDS, SDS and project specification before use.