

# CHEMFIT RC300

## Polyurethane Coating – For Outdoor Surfaces

### PRODUCT DESCRIPTION

**ChemFit RC300** is a high-performance, polyurethane-based protective coating specifically formulated for outdoor surfaces. This UV-resistant, durable coating provides excellent weather protection, color retention, and surface durability for exterior concrete, masonry, and other substrates. The aliphatic polyurethane formulation resists yellowing from sun exposure while providing a hard-wearing, easy-to-clean finish. Ideal for protecting outdoor surfaces such as roofs, balconies, terraces, and parking decks against weathering, UV radiation, and pedestrian traffic.

### PRIMARY APPLICATIONS

**ChemFit RC300** is recommended for use in conditions such as:

- Outdoor concrete surfaces (roofs, balconies, terraces, verandas)
- Parking decks and car park ramps
- Pedestrian traffic areas exposed to weather
- Protection of polyurethane waterproofing systems from UV exposure
- Concrete and masonry facades
- Industrial floors with outdoor exposure
- Stadiums and open-air facilities
- Exposed aggregate and decorative concrete surfaces

### KEY FEATURES AND BENEFITS

- **UV resistant** – Aliphatic formulation prevents yellowing and degradation from sunlight exposure
- **Weather resistant** – Protects against rain, frost, and temperature extremes (-40°C to +90°C service temperature)
- **High durability** – Resistant to abrasion, impact, and pedestrian traffic
- **Chemical resistance** – Resists oils, fuels, dilute acids, alkalis, and common detergents
- **Excellent adhesion** – Bonds strongly to concrete, masonry, and properly primed surfaces
- **Breathable yet waterproof** – Allows water vapor transmission while blocking liquid water
- **Good coverage** – Approximately 0.3 kg/m<sup>2</sup> per coat
- **Color stable** – Maintains appearance with minimal fading over time
- **Low VOC** – Environmentally friendly formulation

## MECHANICAL PROPERTIES

Property	Value (Typical, 7 Days @ 25 °C)
Tensile strength	10 – 20 N/mm <sup>2</sup>
Adhesion to concrete	> 1.5 N/mm <sup>2</sup> (concrete failure typical)
Hardness (Shore D)	50 – 65
Abrasion resistance	Low weight loss
Water impermeability	5 atm (DIN 1048)
Capillary water absorption	< 0.01 kg/m <sup>2</sup> ·h <sup>0.5</sup>

## PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Appearance	One or two-component liquid (refer to product label)
Color	Clear, white, gray, or custom RAL colors
Finish	Gloss, semi-gloss, or matte
Density	~1.10 – 1.20 kg/L
Solids content	40 – 100% (depending on formulation)
Pot life (25°C)	20 – 40 minutes (for 2K formulations)
Touch dry (25°C)	20 – 30 minutes
Hard dry (25°C)	8 – 12 hours
Full cure	7 days
Recoat interval	Within 24-48 hours, not to exceed 48 hours
Application temperature	+8°C to +25°C
Service temperature	-40°C to +90°C
Elongation at break	~130% (ASTM D412)

## PACKAGING AND STORAGE

### Packaging:

- 20 kg kit (Part A + Part B, where applicable)

### Storage:

- Store in original sealed containers at +5°C to +25°C. Protect from direct sunlight, moisture, and freezing. Store in a dry environment.

**Shelf life:** 12 months from date of manufacture when stored properly

## DOSAGE AND COVERAGE RATES

**Coverage:** Approximately 0.3 kg per square metre for a single coat on smooth surfaces

**Consumption range:** 0.2 – 0.4 kg/m<sup>2</sup> depending on substrate porosity and surface texture

**Typical coverage per 20 kg kit:**

Substrate Type	Coverage (single coat)
Smooth concrete (sealed)	55 – 70 m <sup>2</sup>
Fair concrete	50 – 65 m <sup>2</sup>
Rough/porous concrete	40 – 55 m <sup>2</sup>

**Number of coats required:**

- Minimum 2 coats recommended for all applications
- For severe UV exposure or high-traffic areas, apply 3 coats

**NOTE:** Coverage is approximate; varies with substrate porosity and surface profile. For dark-colored coatings in exposed applications, two coats are strongly recommended to ensure complete UV protection

## APPLICATION GUIDELINES

**Surface Preparation:**

- Substrate must be clean, dry, sound, and free from dust, oil, grease, laitance, curing compounds, loose particles, and any contaminants
- Concrete: mechanically abrade (grinding, shot blasting, scabbling) to achieve open texture (CSP 2-3)
- Remove laitance and any uncured cement
- For existing coatings, ensure compatibility and remove any loose or failing material
- Surface must be completely dry with moisture content below 4-5%
- Ambient temperature must be at least +3°C above dew point
- Relative humidity should be below 80% during application and curing

**Priming:**

- Concrete surfaces require priming before applying ChemFit RC300
- Apply a compatible polyurethane primer (e.g., ChemFit PU Primer) at approximately 0.2 – 0.25 kg/m<sup>2</sup>
- Allow primer to dry until tacky (typically 2-3 hours) before applying topcoat
- Apply topcoat within 24-48 hours of priming; if exceeded, re-apply primer

#### **Mixing (for two-component formulations):**

- Pre-mix Part A (base) individually before combining
- Add Part B (hardener) to Part A according to the ratio on the product label
- Mix with low-speed drill (400-600 rpm) for 2-3 minutes until uniform
- Do not over-mix to avoid air entrapment
- Use within pot life (20-40 minutes at 25°C)

#### **Application:**

- Apply by short-nap roller, brush, or airless spray
- For first coat, apply at approximately 0.3 kg/m<sup>2</sup>
- Allow to dry for 4-8 hours (depending on temperature and humidity)
- Apply second coat crosswise to the first coat for uniform coverage
- For severe exposure, apply a third coat after second coat has cured
- Maintain wet edge to avoid lap marks
- Protect from rain, dew, and direct sunlight during application and curing

#### **Curing:**

- Protect from moisture, dust, and mechanical damage for minimum 24 hours
- Light pedestrian traffic after 12-24 hours (depending on temperature)
- Full chemical and weather resistance after 7 days
- Do not apply below +8°C or if relative humidity exceeds 80%

## **HEALTH AND SAFETY**

Polyurethane coatings may cause skin and eye sensitization and irritation. Isocyanates can cause respiratory sensitization. If eye contact occurs, rinse immediately with plenty of water for 15-20 minutes and seek medical attention. For skin contact, wash immediately with soap and water; remove contaminated clothing. If swallowed, do not induce vomiting; rinse mouth and drink water, then seek medical attention. Use gloves (nitrile), safety glasses, and protective clothing during handling. Ensure adequate ventilation – use respiratory protection with organic vapor cartridges if ventilation is poor. Refer to the Safety Data Sheet for detailed information.

## CLEAIING OF TOOLS

Clean all brushes, rollers, mixing equipment, and spillages with xylene, acetone, or polyurethane thinner immediately after use before material cures. Dried material requires mechanical removal. Dispose of cleaning materials in accordance with local regulations.

## APPROVALS AND STANDARDS

**ChemFit RC300** conforms to the following standards:

- **EN 1504-2** – Surface protection systems for concrete (Certificate No.: 2032-CPR-10.11)
- **EN 13813** – Synthetic resin screed for floor coatings
- **ASTM D412** – Tensile strength and elongation testing
- **ASTM D4541** – Pull-off adhesion strength
- **DIN 1048** – Water impermeability at hydrostatic pressure
- **EN 1542** – Adhesion testing for repair mortars and coatings
- **EN 1062-11** – Artificial weathering resistance (2000 hours – no blistering, cracking, or flaking)
- **ISO 9001** – Quality management system certified
- **CE marked** – Declaration of Performance

## LEGAL NOTES

*All technical data provided in this Product Data Sheet is based on laboratory testing under controlled conditions. Actual field performance may vary due to differences in substrates, application methods, site conditions, and environmental factors. ChemFit makes no warranty of merchantability or fitness for a particular purpose. Users shall conduct their own trials to validate product suitability for the intended application. ChemFit reserves the right to modify product specifications without prior notice. For the most current documentation, request the latest Product Data Sheet and Safety Data Sheet from ChemFit.*

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