

# CHEMFIT PU FLOOR 1600

**Two Part PU Resin Self-Smoothing Screed and Seal Coat – For Food & Beverage Industry, Wet Working Areas, Normal to Medium Heavy Wear**

## PRODUCT DESCRIPTION

**ChemFit PU Floor 1600** is a two part, solvent-free, pigmented polyurethane (PU) resin system for use as a self-smoothing screed and seal coat on concrete and cementitious substrates. This high-performance, aliphatic polyurethane flooring system provides a seamless, hard-wearing, and decorative finish with excellent resistance to mechanical wear, thermal shock, and aggressive chemicals. The formulation is resistant to UV radiation, ensuring it will not yellow when exposed to sunlight, making it ideal for exposed areas.

## PRIMARY APPLICATIONS

**ChemFit PU Floor 1600** is recommended for use in conditions such as:

- Self-smoothing screed and seal coat for food and beverage processing facilities (dairies, breweries, bakeries, commercial kitchens)
- Wet working areas, cold storage, and freezer rooms
- Industrial and manufacturing facilities with normal to medium heavy wear
- Pharmaceutical production and cleanrooms requiring high hygiene standards
- Car parks, maintenance hangars, and loading ramps

## KEY FEATURES AND BENEFITS

- **Two part, solvent-free PU resin** – 100% solids; low odor and safe for indoor use
- **Excellent chemical resistance** – Resists organic acids, fats, oils, sugars, blood, cleaning agents, and sanitizers
- **Superior thermal shock resistance** – Withstands extreme temperature fluctuations from boiling water to freezing conditions; heat resistant up to 120°C
- **UV stable** – Aliphatic formulation prevents yellowing when exposed to sunlight
- **Seamless and hygienic** – Non-porous surface prevents bacteria accumulation; easy to clean and disinfect
- **Antimicrobial protection** – Resists bacterial growth (Listeria, E. coli, Salmonella), mold, yeast, and biofilm
- **Good flexibility** – Less brittle than epoxy; accommodates minor substrate movement
- **Good mechanical resistance** – Withstands heavy equipment, forklift traffic, and impact
- **Slip resistant** – Can be finished with anti-slip aggregate for wet or greasy areas

## PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Appearance	Part A: Pigmented liquid; Part B: Clear/Amber liquid
Color	Range of RAL colors available (e.g., RAL 7032, RAL 9010)
Basis	Two part, solvent-free aliphatic polyurethane resin
Density (mixed)	~1.3 – 1.5 kg/L
Solids Content	~100% (by weight and volume)
Pot Life (at +20°C)	15 – 25 minutes
Touch Dry (at +20°C)	4 – 8 hours
Light Foot Traffic	12 – 18 hours
Full Cure	7 days
Application Temperature	+10°C to +30°C
Substrate Temperature	Must be ≥3°C above dew point
Relative Humidity	Max. 80%
Substrate Moisture	< 4% (no rising moisture)
Service Temperature	-30°C to +80°C (permanent); up to +120°C (short-term)

## MECHANICAL PROPERTIES

Property	Value
Shore D Hardness	65 – 75
Tensile Strength	> 10 N/mm <sup>2</sup>
Elongation at Break	> 30%
Adhesion to Concrete	> 1.5 N/mm <sup>2</sup> (substrate failure typical)
Abrasion Resistance	Excellent for medium-heavy traffic
Impact Resistance	Good; less brittle than epoxy systems

## CHEMICAL RESISTANCE

Chemical	Resistance
Organic acids (fruit acids, lactic acid)	Excellent
Fats, oils, grease	Excellent
Sugar solutions, blood, proteins	Excellent
Cleaning agents and sanitizers	Excellent
Alkaline detergents	Good
Dilute acids and alkalis	Good
Thermal shock (hot/cold cycling)	Excellent

## PACKAGING AND STORAGE

### Packaging:

- 25 kg unit (pre-weighed Part A + Part B)

### Storage:

- Store in original sealed containers at +10°C to +25°C
- Protect from direct sunlight, moisture, and freezing
- Store in dry conditions

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

## DOSAGE AND COVERAGE RATE

Application Type	Mix Ratio (Base : Additive)	Consumption (approx.)	Coverage per 25 kg unit
Self-smoothing screed (1.5-2.0 mm)	Neat (1:0)	2.0 – 2.5 kg/m <sup>2</sup>	10 – 12.5 m <sup>2</sup>
Seal coat	Neat (1:0)	0.35 – 0.50 kg/m <sup>2</sup>	50 – 70 m <sup>2</sup>
Broadcast system (base coat)	1:0.8 (with sand)	1.8 – 2.2 kg/m <sup>2</sup>	11 – 14 m <sup>2</sup>
Broadcast sand (0.4-0.7 mm)	—	~5 – 6 kg/m <sup>2</sup>	—

## APPLICATION GUIDELINES

### Surface Preparation:

- Substrate must be sound, clean, dry, and free from dust, oil, grease, laitance, curing compounds, and loose particles
- Mechanically abrade (shot blasting or grinding) to achieve open texture (CSP 2-3)
- Substrate moisture content must be < 4% with no rising moisture
- Fill blowholes and repair damaged areas with suitable filler

### Priming:

- For porous or dusty substrates, apply compatible epoxy primer
- For PU top coats, use a PU-compatible primer
- Allow primer to cure completely before applying PU floor

### Mixing:

- Thoroughly pre-mix Part A before combining
- Add Part B to Part A according to label ratio
- Mix with low-speed drill (300-400 rpm) for 2-3 minutes until uniform
- Pour into another container and mix again for 1 minute to ensure thorough blending
- Use within pot life (15-25 minutes at +20°C)

### Application:

- **Self-smoothing screed:** Pour material onto prepared and primed substrate; spread using serrated trowel or pin rake; immediately roll with spiked roller to remove air bubbles
- **Seal coat:** Apply by short-pile roller or squeegee; back-roll crosswise for uniform coverage
- **Broadcast system:** Apply base coat as above; broadcast quartz sand (0.4-0.7 mm) to excess while wet; allow to cure overnight; vacuum loose sand; apply seal coat at 0.35-0.50 kg/m<sup>2</sup>
- For slip-resistant finish: broadcast fine anti-slip aggregate into wet top coat
- Maintain wet edge to avoid lap marks

### Curing Times:

Temperature	Recoat Minimum	Recoat Maximum	Pot Life
+10°C	20-24 hours	2 days	~30 min
+20°C	12-16 hours	24 hours	~20 min
+30°C	8-10 hours	16 hours	~15 min

- Light foot traffic: 12-18 hours at +20°C
- Full chemical resistance: 7 days
- Do not apply below +10°C or if relative humidity exceeds 80%
- Do not apply if substrate temperature is below dew point (+3°C margin)

## HEALTH AND SAFETY

Polyurethane resins may cause skin and eye sensitization. Isocyanates can cause respiratory sensitization. If eye contact occurs, rinse with water for 15-20 minutes, seek medical attention. Skin contact: wash with soap and water. If swallowed: do not induce vomiting; rinse mouth, drink water, seek medical aid. Use nitrile gloves, safety glasses, protective clothing. Ensure ventilation – use respiratory protection with organic vapor cartridges if ventilation is poor. Refer to SDS.

## CLEAING 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 PU Floor 1600** complies with the following standards:

- **DIN 25415-1** – Decontamination ability of surfaces for nuclear facilities (highest decontamination classification)
- **EN 1504-2** – Surface protection systems for concrete (Coating)
- **EN 13813** – Screed material and floor coatings
- **HACCP International certified** – Suitable for food industry hygienic flooring
- Conforms to **FDA** requirements for food processing facilities (non-porous, chemical resistant, easy to clean)
- Conforms to **USDA** standards for sanitary conditions
- Conforms to **OSHA** requirements for workplace safety (slip resistance, chemical resistance)
- **ISO 9001** – Quality management system certified
- Low VOC – Low emission
- Two part PUR resin self-smoothing screed and seal coat
- Suitable for food and beverage industry, wet working areas, normal to medium heavy wear

## 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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