

# CHEMFIT FLOOR N400 ELASTIC

**One-Part, Highly Elastic, Solvent Containing, UV Resistant, Colored, Moisture Curing Polyurethane Coating – For Concrete and Cementitious Screeds for Balconies, Terraces, Footbridges, Stairways & Light to Medium Mechanical Exposure**

## PRODUCT DESCRIPTION

**ChemFit Floor N400 Elastic** is a one-part, highly elastic, solvent containing, UV resistant, colored, moisture curing polyurethane resin coating. This single-component, ready-to-use formulation cures by reacting with atmospheric moisture to form a seamless, waterproof, and crack-bridging elastic membrane. The UV resistant, non-yellowing properties make it ideal for permanent exterior exposure without significant color change or chalking. This product complies with **Z-59.12-4** approval from DIBt, Germany for use in Ground Water Protection Systems for Bund Containment Areas.

## PRIMARY APPLICATIONS

**ChemFit Floor N400 Elastic** is recommended for use in conditions such as:

- Smooth or slip resistant, UV resistant, waterproof, crack-bridging coating for concrete and cementitious screed substrates
- For light to medium mechanical exposure
- Balconies, terraces, footbridges, stairways, galleries
- As top coat in Ground Water Protection Systems for Bund Containment Areas (with appropriate system build-up)
- Exterior walkways and pedestrian areas

## KEY FEATURES AND BENEFITS

- **One-part, moisture curing** – Ready to use; no on-site mixing required; cures by reacting with atmospheric humidity
- **Highly elastic** – Excellent crack-bridging capability; accommodates substrate movement without failure
- **UV resistant, non-yellowing** – Suitable for permanent exterior exposure; retains color and gloss
- **Waterproof** – Forms a seamless, impervious protective membrane
- **Weather resistant** – Withstands rain, frost, and temperature extremes
- **Abrasion resistant** – Suitable for normal foot traffic and light mechanical wear
- **Slip resistant surfaces possible** – Can be combined with aggregate broadcast for anti-slip finish
- **Solvent containing formulation** – Good flow and leveling properties
- **Available in 6 kg and 18 kg units** – Suitable for small to medium projects
- **Complies with DIBt Z-59.12-4** – Approved for Ground Water Protection Systems

## PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Appearance	Liquid
Color	Range of colors available (colored)
Basis	One-part, moisture curing polyurethane resin
Type	Solvent containing
Density	~1.40 – 1.45 kg/L
Solids content	~90%
Viscosity (at 20°C)	~4,000 mPa·s
Pot life (in opened container)	Apply within 1-2 hours at 20°C
Touch dry (at 20°C/50% r.h.)	6 – 8 hours
Rain resistant (at 20°C/50% r.h.)	~4 hours
Recoat time (at 20°C/50% r.h.)	Minimum 12-24 hours, maximum 48 hours
Full cure	7 days
Application temperature	+5°C to +35°C
Substrate temperature	Must be ≥3°C above dew point
Relative humidity	Max. 80%
Substrate moisture	< 4% – 6% (no rising moisture)
Service temperature	-30°C to +80°C

## MECHANICAL PROPERTIES

Property	Value	Test Method
Tensile strength	4 – 6 MPa	EN 12311-2
Elongation at break	> 450%	EN 12311-2
Shore A hardness	~70	EN ISO 868
Adhesion to concrete	> 2.0 MPa	EN 1542
Crack bridging capacity	> 2 mm (dynamic)	EN 1062-7
Capillary water absorption	< 0.1 kg/m <sup>2</sup> ·h <sup>0.5</sup>	EN 1062-3
Water vapour permeability	Permeable (Class III)	EN 1062-6

## PACKAGING AND STORAGE

### Packaging:

- 6 kg unit (pre-weighed container)
- 18 kg unit (pre-weighed container)

### Storage:

- Store in original sealed containers at +10°C to +25°C
- Protect from direct sunlight, moisture, and freezing
- Store in dry conditions
- Keep containers tightly sealed when not in use
- Avoid prolonged exposure to high temperatures (reduces shelf life)

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

## DOSAGE AND COVERAGE RATE

Application Type	Consumption (approx.)	Coverage per 6 kg
Single coat (smooth, sealed surface)	0.30 – 0.40 kg/m <sup>2</sup>	15 – 20 m <sup>2</sup>
Single coat (porous or textured surface)	0.40 – 0.60 kg/m <sup>2</sup>	10 – 15 m <sup>2</sup>
Two coat system (recommended)	0.60 – 1.00 kg/m <sup>2</sup> total	6 – 10 m <sup>2</sup>
Textured finish (with aggregate broadcast)	0.70 – 1.20 kg/m <sup>2</sup>	5 – 8.5 m <sup>2</sup>

### Coverage for specific film thicknesses:

- For 1.0 mm dry film thickness (DFT): Approximately 1.4 – 1.5 kg/m<sup>2</sup>
- For 1.5 mm DFT (typical for waterproofing): Approximately 2.1 – 2.3 kg/m<sup>2</sup>

### Recommended system:

- Standard pedestrian areas: two coats (minimum 1.0 mm total DFT)
- Waterproofing with light vehicle traffic (ramps): two coats with reinforcement fabric between coats, minimum 1.5 mm total DFT

**NOTE:** Coverage is approximate; varies with substrate porosity, surface profile, and application method. For slip resistant finish, broadcast aggregate into wet second coat (approx. 2-4 kg/m<sup>2</sup> of aggregate).

## 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)
- Concrete compressive strength: minimum 25 N/mm<sup>2</sup>; pull-off strength minimum 1.5 N/mm<sup>2</sup>
- Substrate moisture content must be < 4% – 6% with no rising moisture
- Substrate temperature must be at least +3°C above dew point to prevent condensation
- Fill blowholes, voids, and repair damaged areas with suitable filler

### Priming:

- On porous or dusty substrates, apply compatible epoxy primer (e.g., **ChemFit EpoxyPrime 1400**) at 0.2 – 0.5 kg/m<sup>2</sup>
- For dense concrete or cementitious screeds, primer may not be required; verify adhesion before proceeding
- Allow primer to cure (minimum 4 hours at +20°C) before applying **ChemFit Floor N400 Elastic**

### Mixing:

- Stir thoroughly before use (material may settle during storage)
- Do not thin or dilute with any solvent
- Use entire container once opened; material skins over in opened container
- For high humidity conditions (>70%), note that curing will be faster; pot life reduced

### Application:

- Apply by short-pile roller, brush, or squeegee
- Apply first coat uniformly at specified consumption rate (0.4 – 0.5 kg/m<sup>2</sup> for standard system)
- For reinforced system: embed polyester or glass fibre reinforcement fabric into wet first coat
- Allow first coat to cure (minimum 12-24 hours at +20°C, depending on humidity)
- Apply second coat crosswise to the first coat at specified consumption rate
- For slip resistant finish: broadcast clean, dry, graded anti-slip aggregate (0.4 – 0.7 mm quartz or silicon carbide) into wet second coat; allow to cure; remove loose aggregate; apply third coat if required
- Maintain wet edge to avoid lap marks; work in manageable sections

### Curing Times (at +20°C/50% r.h.):

- Touch dry: 6 – 8 hours
- Rain resistant: 4 hours
- Recoat: minimum 12-24 hours, maximum 48 hours
- Light foot traffic: 24 – 36 hours
- Full chemical and mechanical resistance: 7 days

### Curing Times vs. Temperature and Humidity:

Temperature	Touch Dry (50% r.h.)	Recoat Minimum	Recoat Maximum
+10°C	12-16 hours	20-24 hours	3 days
+20°C	6-8 hours	12-24 hours	48 hours
+30°C	3-5 hours	8-12 hours	24 hours

**NOTE:** The product is moisture curing. The rapidity of hardening is strongly influenced by relative environmental humidity. Higher humidity accelerates curing; lower humidity slows curing.

### Limitations:

- Do not apply below +5°C or if relative humidity exceeds 80%
- Do not apply if substrate temperature is below dew point (+3°C margin)
- Protect from water, condensation, and mechanical damage during cure
- Ensure adequate ventilation during application; solvent containing formulation requires fresh air circulation
- For bund areas and Ground Water Protection Systems, consult ChemFit technical service for complete system specification and approved application methods
- For areas requiring chemical resistance to specific aggressive chemicals, verify compatibility before application

## HEALTH AND SAFETY

Polyurethane resin contains solvents and may cause skin and eye sensitization and respiratory 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. This product is flammable when wet. Refer to the Safety Data Sheet for detailed information.

## CLEANING 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 Floor N400 Elastic** complies with the following standards:

- **DIBt, Germany** – Approval for "Ground Water Protection System", Z-59.12-4, Jun. 2003 (as part of approved system)
- **EN 1504-2** – Surface protection systems for concrete (Coating) – CE marked (system dependent)
- **EN 13813** – Screed material and floor coatings (system dependent)
- **EN 1062-7** – Crack bridging testing (Class A5 or higher, system dependent)
- **ISO 9001** – Quality management system certified
- One-part, highly elastic, solvent containing, UV resistant, colored, moisture curing polyurethane coating
- Suitable for concrete and cementitious screeds for balconies, terraces, footbridges, stairways, light to medium mechanical exposure

## 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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