

HIGH-PERFORMANCE WATER-BASED POLYURETHANE NANO COATING

PFS SP330: High-Performance Water-Based Polyurethane Nano Coating

PFS SP330 is a premium nanotechnology HDI-based polyurethane coating designed to provide a durable, water-repellent, and highly resistant finish. This versatile system functions as a high-quality sealer, primer, and finish for a wide variety of interior and exterior surfaces. Its advanced formulation is resistant to UV, fungus, algae, bacteria, and corrosive elements, making it ideal for hygienic environments.

Key Advantages

- **Nano-Reinforced Adhesion:** Features outstanding bonding capabilities to diverse substrates.
 - **Hygienic Resilience:** High resistance to weathering, blistering, and microbial growth (fungus/algae/bacteria)
 - **Self-Cleaning & Stain Resistant:** Engineered with self-cleaning properties and excellent stain and scratch resistance.
 - **Color Stability:** Exceptional color retention and non-yellowing characteristics for long-term aesthetics.
 - **Eco-Friendly:** Zero VOC formulation with easy water-based clean-up.
 - **Specialized Protection:** Provides additional protection against termites and anti-sticking features.
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Typical Applications

- **Substrate Compatibility:** Ideal for use on concrete, plaster, metal, and stone surfaces.
 - **Industrial:** Secondary containment for chemical tanks and floor slabs, or specifically designed for the food and pharmaceutical industries, as well as hospitals and clean rooms
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Application Guidelines

- **Equipment:** Brush, lamb wool roller, or specialized spray is required.
 - **Mixing:** Must be mixed homogeneously using an electrical or pneumatic power stirrer prior to application.
 - **Surface Prep:** Substrates must be clean, smooth, dry, and entirely free of wax, grease, oil, and loose or peeling paint.
 - **Environmental Constraints:** Application and drying temperatures must be maintained between 10°C and 35°C.
 - **Coverage:** Approximately 0.15kg/m² per coat, depending on substrate porosity.
 - **Recoating:** Apply the second coat as soon as the first coat is touch-dry (typically within 4–6 hours depending on conditions).
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Storage & Packaging

- **Packaging:** NPU-12A: 10 kg/pail & NPU-12B: 1 kg/can
 - **Storage (not mixed):** Can be stored in original sealed packs under cool and dry conditions for at least 12 months.
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Safety & Personal Protective Equipment (PPE)

- **Skin Protection:** Always wear impervious gloves and use a barrier cream when handling the product.
 - **Eye Protection:** Protective eyewear is mandatory to prevent accidental contact during the high-pressure spray process.
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Technical & Physical Data

Property	Test Method	Result
Finish	—	Semi-gloss. Matt finish is available.
Color	—	Transparent & Multicolor
Pot life @ 25°C	—	45-60 minutes
Re-coat Time	—	6 hours @ 25°C and 50% RH
Full Cure @ 25°C	—	3 days
Viscosity	—	1100 cps (Brookfield LVF, 30rpm, 250C)
Drying Time (touch dry)	—	4 hours
Tensile Strength	—	221 kgf/cm²
Elongation	—	177%
Tear Strength	—	88.7 kgf/cm
Hardness	Type D/1 sec	66
Abrasion Resistance	—	0.0854(H-22,1000g,1000cycles)

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Property	Test Method	Result
Scrub Resistance	CNS10757	Pass (2000cycles)
Weathering Resistance	ASTM G154	No change (2000h)
Stain Resistance	CNS 10757	No change
Chemical Resistance	CNS 4447	No change
Heavy Metals	EN 71 Part 3	Not detected
Potable Water Contact	CNS 10774	Pass
Fungi Growth Test	ASTM G21	None observed growth on specimens
Consumption	—	Approx. 0.15kg/m ²