

TECHNICAL DATA SHEET

Product Document: Stone_Veneer_Furniture_Epoxy_Coating_TDS_EN.pdf
System Name: PureEpoxy Stone Veneer Furniture Epoxy Penetrating Coating
Product Category: Epoxy Surface Coating & Furniture Lamination Systems

PureEpoxy Stone Furniture Epoxy Penetrating Coating is a two-component, solvent-free, 100% solids aliphatic-modified epoxy coating formulated specifically for reinforcing, sealing, and high-gloss protective finishing of natural stone and artificial stone veneer furniture. Featuring ultra-low viscosity and strong capillary penetration, it consolidates loose and fragile stone structures, seals surface micro-pores, and cures into a crystal-clear, mirror high-gloss protective film with outstanding surface hardness, scratch resistance, and anti-yellowing performance.

Features

- Aliphatic modified anti-yellowing
- Deep capillary penetration & structural reinforcement
- Crystal-clear mirror gloss
- High hardness & scratch resistant
- 100% Solids, solvent-free & zero VOC
- Broad stone & wood substrate compatibility

Properties

Physical Properties (Uncured Components & Mixture)

Property	Test Method	Units	Typical Value
Binder Type ▾	Chemical Basis ▾	— ▾	Two-component Aliphatic Modified Epoxy
Appearance (Part A / ... ▾	Visual ▾	— ▾	Clear transparent liquid / Clear transparent liquid

Property	Test Method	Units	Typical Value
Gardner Color ▾	ASTM D1544 ▾	— ▾	≤ 1
Density (Part A, 25°C) ▾	ASTM D1475 / ISO 28... ▾	g/cm ³ ▾	1.12 ± 0.03
Density (Part B, 25°C) ▾	ASTM D1475 / ISO 28... ▾	g/cm ³ ▾	1.04 ± 0.03
Viscosity (Part A, 25°C) ▾	Brookfield ASTM D2196 ▾	mPa·s ▾	220 ~ 320
Viscosity (Part B, 25°C) ▾	Brookfield ASTM D2196 ▾	mPa·s ▾	80 ~ 130
Mixed Viscosity (25°C) ▾	Brookfield ASTM D2196 ▾	mPa·s ▾	160 ~ 240
Mix Ratio (Part A : Par... ▾	By Weight ▾	— ▾	100 : 30
Mix Ratio (Part A : Par... ▾	By Volume ▾	— ▾	100 : 34
Solids Content ▾	ASTM D2369 ▾	% ▾	100% (Solvent-free)
VOC Content ▾	EPA Method 24 ▾	g/L ▾	0
Pot Life (25°C, 100g) ▾	Internal Standard ▾	min ▾	40 ~ 50
Shelf Life ▾	Sealed original packa... ▾	months ▾	24 (10 ~ 30°C, dry & shaded)

Mechanical Properties (Fully Cured, 7 days @ 25°C / 50% RH)

Property	Test Method	Units	Typical Value
Cured Appearance	Visual	— ▾	Crystal-clear, mirror high-gloss
Shore D Hardness	ISO 868 / ASTM D2240	— ▾	78 ~ 82

Property	Test Method	Units	Typical Value
Tensile Strength	ISO 527 / ASTM D638	MPa ▾	58 ~ 65
Flexural Strength	ISO 178	MPa ▾	72 ~ 80
Compressive Strength	ASTM C579	MPa ▾	90 ~ 100
Adhesion to Natural Stone	ASTM D4541	MPa ▾	≥ 4.5 (Substrate failure preferred)
Abrasion Resistance (CS-17, 1000g, 1000 cycles)	ASTM D4060	mg loss ▾	≤ 28
Volume Shrinkage	ASTM D792	% ▾	≤ 0.4
Water Absorption (24h immersion)	ASTM D570	% ▾	≤ 0.15

Weathering & Thermal Properties

Property	Test Method	Units	Typical Value
Heat Deflection Temperature (HDT)	ASTM D648	°C	62 ~ 66
UV Weathering / Anti-Yellowing (1000h)	QUV ASTM G154 / ISO 4892	—	Minimal discoloration indoor (ΔE ≤ 1.5)

Recommended Mixing & Application Conditions

Parameter	Specification / Recommended Value
Mixing Ratio (A : B)	100 : 30 by weight (100 : 34 by volume)

Parameter	Specification / Recommended Value
Recommended Application Method	Short-nap roller, brush, or pouring & squeegee
Suggested Wet Film Thickness	80 ~ 180 µm per coat (avoid excessive single buildup)
Theoretical Coverage Rate	8 ~ 12 m ² /kg (dependent on stone substrate porosity)
Applicable Substrates	Natural & engineered marble, granite, onyx, travertine, quartz stone, sintered stone slabs, and wood veneer boards
Substrate Moisture & Cleanliness	100% dry, sound, dust-free, and oil-free
Application Environment	Ambient temperature ≥ 12°C, relative humidity ≤ 75%
Tack-Free / Surface Dry (25°C)	8 ~ 10 hours
Handleable / Light Load (25°C)	24 hours
Recoat Window (25°C)	12 ~ 24 hours (mechanical abrasion required if fully cured)
Full Mechanical & Chemical Cure (25°C)	7 days

Cautions

Stone and veneer substrates must be completely dry, structurally sound, and thoroughly cleaned of dirt, grease, release agents, and loose particles prior to application. Strictly adhere to the recommended mixing ratio (A:B = 100:30 by weight); inaccurate ratios or incomplete mechanical mixing will result in tacky surfaces, poor chemical resistance, or under-curing. Do not install when ambient or substrate temperatures are below 12°C or relative humidity exceeds 75%. Ensure adequate workshop ventilation and wear personal protective

equipment (nitrile gloves, chemical goggles). The product is not intended for prolonged outdoor direct UV exposure without an additional protective aliphatic polyurethane topcoat.

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