ALVERTEX® PRIMIX-70 SUPER WHITE

TECHNICAL DATA & APPLICATION PROFILE

For Technical Directors, R&D Departments and Formulation Laboratories

1. Executive Technical Summary

ALVERTEX® PRIMIX-70 SUPER WHITE is a high-whiteness hydraulic calcium aluminate binder based on CA and CA_2 phases, developed for demanding dry-mix formulations and specialty technical mortars. It is designed for standalone use and for ternary systems with Portland cement and gypsum.

Key applications include self-leveling compounds and technical screeds, architectural and decorative mortars, terrazzo and cement-based grindstone systems, premium technical mortars, tile grouts and other colour-sensitive cementitious formulations.

2. Key Technical Advantages

Advantage	Technical basis
High whiteness	Hunter Whiteness 92–94; guaranteed ≥90.
High fineness	Blaine 4,300–4,500 cm^2/g; guaranteed ≥4,200.
Rapid strength development	30–40 MPa at 6 h; 50–65 MPa at 24 h; 55–67 MPa at 72 h.
Controlled setting	Initial 140–200 min; final 150–230 min.
High purity	CA/CA_2 binder; no modifying additives declared.
Ternary-system capability	Suitable for systems with Portland cement and gypsum.

3. Representative Batch Performance

Parameter	Result
Al_2O_3	69.8%
CaO	29.1%
Fe_2O_3	0.05%
Hunter Whiteness	93.1
Specific surface area	4,845 cm^2/g
ASTM Flow	79
Initial setting	200 min
Bulk density	0.9 g/cm^3
Specific gravity	2.90–3.05 g/cm^3

The representative batch data confirms a high-purity, high-whiteness and finely ground calcium aluminate binder suitable for demanding formulation work.

4. Technical Properties

Property	Typical / Specification
Mineralogical phases	CA, CA_2
Hunter Whiteness	92–94; guaranteed ≥90
Blaine fineness	4,300–4,500 cm^2/g; guaranteed ≥4,200
Initial setting	140–200 min
Final setting	150–230 min
Flow after 30 min	≥40%
Compressive strength, 6 h	30–40 MPa
Compressive strength, 24 h	50–65 MPa
Compressive strength, 72 h	55–67 MPa
Free crystalline silica	Zero detectable
Water-soluble Cr VI	Zero detectable
VOC	0%
Shelf life	>180 days under dry storage conditions

5. Applications

- Self-leveling underlayments and technical screeds
- Architectural and decorative mortars
- Terrazzo and cement-based grindstone flooring systems
- Premium technical mortars and tile grouts
- White and coloured cementitious systems
- Specialty dry-mix repair compounds

6. Formulation Compatibility

ALVERTEX® PRIMIX-70 SUPER WHITE is intended for use as a hydraulic calcium aluminate binder and as a component of ternary systems combining calcium aluminate binder, Portland cement and gypsum. Such systems can be used to control the ettringite matrix and develop targeted setting and strength characteristics.

7. Recommended Laboratory Evaluation

Test	Purpose
Water demand / consistency	Determine formulation-specific water requirement.
Flow and workability retention	Assess fresh-mortar behaviour.
Initial and final setting	Establish formulation-specific setting profile.
Compressive strength: 6 h / 24 h / 72 h / 28 d	Establish early and long-term strength development.
CIELAB L*, a*, b* and ΔE	Quantify colour and colour stability.
Particle-size distribution	Characterise powder fineness beyond Blaine.
Residue on 90 µm sieve	Control coarse fraction.
Efflorescence / colour stability	Evaluate finished-product appearance.
Abrasion resistance where relevant	Assess application-specific durability.

8. ALVENTUS Technical Support

Service	ALVENTUS support
Material supply	ALVERTEX® PRIMIX-70 SUPER WHITE with batch documentation.
Technical documentation	TDS, CoA and supporting technical information.
Laboratory samples	Samples for formulation and performance testing.
Formulation support	Technical assistance during trials.
Optimisation support	Assistance with dosage and formulation adjustment where required.

9. Technical Qualification Statement

ALVERTEX® PRIMIX-70 SUPER WHITE is designed as a premium high-whiteness calcium aluminate binder for demanding building-chemistry applications. The available product and batch data demonstrate a consistent technical profile combining high whiteness, high fineness, controlled setting and rapid early-strength development.

ALVENTUS recommends evaluating ALVERTEX® in the customer's specific formulation through controlled laboratory testing. The objective is to establish the optimum dosage and confirm performance in the final application.

10. Product Positioning

ALVERTEX® PRIMIX-70 SUPER WHITE is positioned as a high-performance white calcium aluminate binder for premium dry-mix and specialty mortar applications where colour purity, early strength, controlled setting and reliable processing are important.

11. Contact

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