



CALCIUM SULPHO-ALUMINATE (CSA BINDER)

High-performance hydraulic binder | Rapid setting | High early strength | Shrinkage-controlled formulations

PRODUCT OVERVIEW

A high-performance hydraulic binder for rapid setting, high early strength and shrinkage-controlled cement-based formulations.

- A calcium sulpho-aluminate based hydraulic binder.
- Used in dry-mix mortar and specialty cement systems requiring fast setting, rapid hardening and dimensional stability.
- Used with calcium sulphate systems for ettringite formation, early strength and shrinkage compensation.
- Used with Portland cement to adjust setting time and improve early strength and overall performance.

KEY FUNCTIONS

Rapid set Fast return to service	High early strength Strength within hours	Shrinkage control Compensation or expansion	Durability Dense matrix, sulphate resistance
Good rheology Flow adapted to use	Low-temperature use Supports cold-weather mixes	Lower alkalinity Helps reduce efflorescence risk	Low CO₂ concept Efficient clinker chemistry

RECOMMENDED APPLICATION AREAS

Flooring Systems • Self-leveling compounds • Self-smoothing mortars • Underlayment and overlayment • Decorative colored flooring	Grouting & Repair • Non-shrink grouts • High-strength grouting materials • Rapid repair mortars • Water-stopping mortars	Tile & Facade Products • Fast-setting tile adhesives • Tile grouts / anti-efflorescence grouts • External insulation mortars • External renders
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TYPICAL FORMULATION ROUTES

CSA Binder + Calcium Sulphate For rapid hardening, ettringite formation, shrinkage compensation, controlled expansion and high early strength.	CSA Binder + Portland Cement For adjusting setting time, accelerating strength development, improving density, reducing shrinkage and improving Portland-cement based dry-mix systems.
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TECHNICAL DATA — GRADE 72.5 / TYPE III

The following data are provided as typical information for Grade 72.5 / Type III CSA Binder. Other grades are not included in this brief.

Item	Typical value / requirement
Grade / Type	72.5 / Type III
Water-cement ratio	0.43
Specific surface area	≥450 m ² /kg
Initial setting time	≥10 min
Final setting time	≤350 min
Flexural strength, 1 day	≥6.5 MPa
Flexural strength, 3 days	≥8.5 MPa
Flexural strength, 7 days	≥9.5 MPa
Compressive strength, 1 day	≥50 MPa
Compressive strength, 3 days	≥65 MPa
Compressive strength, 7 days	≥72.5 MPa

Chemical composition	Value
SiO ₂	≤10.50 %
Al ₂ O ₃	≥33.00 %



TANGSHAN POLAR BEAR BUILDING MATERIAL CO., LTD

174 West Zhaoshang Rd., Leizhuang, Luanxian County, Tangshan, Hebei 063705, China

Beijing Office

Fe ₂ O ₃	≤3.50 %
CaO	41–44.50 %
MgO	≤3.50 %
TiO ₂	2.0 %
SO ₃	≥7.50 %

DIRECTIONS FOR USE

- Compatibility with Portland cement and calcium sulphate should be verified by trial mix.
- Setting time, rheology and strength can be adjusted with suitable additives.
- Keep dry and protect from moisture.
- Use promptly after opening the package.

PACKAGING AND STORAGE

- 25 kg bags
- 1,000 kg jumbo bags / bulk bags

Store in a dry, covered and well-ventilated place. Protect from moisture and rain. Use as soon as possible after opening.

COMPANY INFORMATION

Item	Information
Company	Tangshan Polar Bear Building Materials Co., Ltd.
Tel	+86-315-7536202 / +86-10-60557306
E-mail	zhoujianbin@tspolarbear.com
Website	www.csa-cement.com