



Calcium Aluminate Cement (CAC 40)

CAS No.: 12042-68-1
Formula: CaAl_2O_4

DESCRIPTION

Calcium Aluminate Cement (CAC 40) is a rapid-hardening binder that resists high temperatures and corrosive environments. Produced by melting limestone, alumina, and bauxite at high temperatures and then ball-milled to precise specifications, CAC 40 can be used either as a stand-alone binder or as part of binary or ternary cement systems.

It provides resistance to extreme temperatures, mild acids and alkalis, sulfates, and water, while offering performance benefits such as enhanced early and final strength, improved water retention, shorter drying time, and higher abrasion resistance. When combined with OPC, CAC 40 helps balance setting time and shrinkage control.

KEY FEATURES

- Rapid-hardening and high early strength
- Chemical resistance to sulfates, acids, and alkalis
- Superior water retention and reduced drying time
- High abrasion resistance
- Usable as stand-alone or blended binder

APPLICATIONS

- Floor leveling compounds
 - Repair mortars
 - Refractory castables
 - Water plug mortars
 - Tile grouts
 - Fast-setting tile adhesives
 - Fast-setting joint fillers
 - Sewer and pipe coatings
 - Mining and tunneling applications
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LIMITED WARRANTY INFORMATION.
PLEASE READ CAREFULLY.

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This document is subject to revision without notice as new data becomes available.

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TYPICAL SPECIFICATIONS

Parameter	Specification
Al ₂ O ₃ (%)	≥ 38.0
CaO (%)	≤ 38.0
SiO ₂ (%)	≤ 5.0
Fe ₂ O ₃ (%)	≤ 18.0
TiO ₂ (%)	≤ 3.0
MgO (%)	≤ 0.8
SO ₃ (%)	≤ 0.1
Na ₂ O Eq. Alkali (%)	≤ 0.3
Initial Set (min)	≥ 150
Final Set (min)	≤ 350
Specific Gravity (g/cm ³)	≤ 3.2
Compressive Strength, 6 hr (MPa)	≥ 45
Compressive Strength, 24 hr (MPa)	≥ 65
Residue at 45 microns (%)	≤ 4.5
Residue at 90 microns (%)	≤ 0.4
Blaine Surface Area (cm ² /g)	≥ 4000
Appearance	Dark powder

PACKAGING

- 94 lb (42.6 kg) bags
- 25 kg bags
- Super sacks
- Bulk

STORAGE

CAC 40 is packaged in specialty bags designed to protect against humidity. Store in original, sealed packaging under dry, sheltered conditions. Avoid outdoor storage or direct contact with the ground. When stored correctly, CAC 40 maintains its properties for at least 6 months, and in most cases for over 12 months.

SAFETY & HANDLING

Standard cement safety precautions apply. Refer to the Safety Data Sheet (SDS) for detailed information on safe handling, PPE, first aid, and disposal.