

ELECTROLAND CEMENT™ 105

ALUMINA CEMENT

105

PRODUCT DATA SHEET

DESCRIPTION

ELECTROLAND Cement™ 105 is a special cement of type CAC [Calcium Alumina Cement], with special characteristics of fast hardening in few hours, and high resistance to the abrasion, even to the mechanical shock. ELECTROLAND can resist very low temperature and also very high temperature. ELECTROLAND does not release calcium hydroxide during their hydration and, therefore, it has excellent resistance to the chemical and bacteriological attacks, even when both act simultaneously. ELECTROLAND is a hydraulic binder with versatile properties used in the building chemistry, for example, in appropriate combination with Portland cement, extremely fast setting and hardening is obtained in ternary mixtures.

RECOMMENDED USES

Fast hardening

- Road and bridge urgent repairs

High resistance to abrasion

- Workshop and maintenance shop
- Loading deck
- Dam spillways
- Irrigation water gate structure topping
- Seashore pier

Low temperature

- Ante room, air lock, cold room, freezing room

High temperature

- Floor area of unloading hot steel
- Mining process
- Refractory process

Chemical resistance

- Drum storage

NOT RECOMMEND FOR

- Pre-stressed concrete
- Mass concrete in large volumes
- Soil stabilization or cement-treated bases for roads
- Mortars and concretes in contact with media that can release alkali

MAIN PROPERTIES

- Rapid hardening, even in cold weather
- Resist to the attack of sulphates and certain acids of pH4. Chemical and bacteriological resistance.
- Resistant to abrasion
- Resistant to mechanical impact
- Is a cement additive for construction chemistry industry that are characterized by rapid setting and hardening [water leak sealers, adhesives, repair mortars, grouts, self-levelers, etc.] and by rapid hardening and drying with dimensional control[self-levelers, grouts, etc.]
- Used in refractory, refractory-insulators and even resistant to the thermal shock.

CHEMICAL CHARACTERISTICS

Al ₂ O ₃	41%
CaO	38%
Fe ₂ O ₃	11%
FeO	4%
SiO ₂	4%
Cl	0.01%
S ²	0.02%
SO ₃	0.02%
Alkalis	0.2%

MECHANICAL AND PHYSICAL CHARACTERISTICS

Compression strength [6h]	240ksc [cyl]
Compression strength [24h]	300ksc [cyl]
Compression strength [3 days]	350ksc [cyl]
Initial setting time	210 min
Final setting time	230 min
Blaine specific surface [cm ² /g]	3200

ADDITIONAL PROPERTIES

Laser Particle Size D [v,0.9]	less than 70 microns
Segger cone	9 [1280°C]
Apparent density	1.1 g/cm ³
Specific weight	3.2 g/cm ³
Main mineralogical component	Monocalcium aluminate CaO-Al ₂ O ₃
Secondary mineralogical components :	
Ca ₂ FeAlO ₅ . Ca ₁₂ Al ₁₄ O ₃₃ . Beta-Ca ₂ SiO ₄ . Ca ₃ TiFe ₂ O ₈ . FeO	

COLOR Dark Gray

MIXING AND INSTALLATION

Temperature of room and substrate should be above 10 degree C for application of ELECTROLAND CEMENT

STANDARD MIX DESIGN

● ELECTROLAND CEMENT	50 kg [2 bags]
● Coarse sand	98 kg
● Aggregates ¾	138 kg
● Clean water	20 liters
● Concrete retarder additive	80 - 150cc
● Concrete foaming agent additive	50 cc [not compulsory, only for cold room application]

Mix with concrete mixer for 5 minutes and pour the mix onto the floor surface. Compact and smooth finish with mechanical power trowel

TRAFFICABILITY

6 hours	light traffic
24 hours	medium traffic
3 days	normal traffic

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PRODUCT COVERAGE

6.25 sqm at 1 cm thick for 1 bag/25 kg ELECTROLAND CEMENT

PACKAGING

25 kg/bag

PRECAUTIONS FOR USE IN WORKS

- In view of its high reactivity, mortars and concretes with ELECTROLAND CEMENT must be cured during the first 24 hours.
- Minimum cement dosage of 400 kg/m³
- Maximum water/cement ratio of 0.40
- Clean aggregates, with few fines under 0.2 mm, and not capable of releasing alkali.
- Ensure the good compacting of the concrete.
- Never mix ELECTROLAND CEMENT with Portland Cement, it will accelerate the setting time.
- Never add up water after the mixing process completed, control water cement ratio not exceeding 0.40

HEALTH & SAFETY

Material Safety Data Sheet (MSDS) available upon request.

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