

# ELECTROLAND

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## CALCIUM ALUMINATE CEMENT

### EN 14647 CAC

#### DESCRIPTION:

By itself, **Electroland** already contributes to characteristics of fast hardening in few hours and high resistance to the abrasion, even to the mechanical shock. The important heat of hydration released during the first hours turns to **Electroland** into a recommended very cold climate cement. **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, **Electroland**-Portland-calcium sulphate regulates voluntarily the rapidity of the drying time and the dimensional control, as much regarding to retraction as to expansion. **Electroland** also is a highly refractory cement (1.300°C).

#### CEMENT FEATURES:

Clinker: 100 %					
Usual value	Specification	Usual value	Specification	Usual value	Specification
Al <sub>2</sub> O <sub>3</sub> 41,5%	35%≤Al <sub>2</sub> O <sub>3</sub> ≤58%	FeO 1,9%	-	S <sup>2-</sup> 0,02%	≤0,10%
CaO 38,1%	-	SiO <sub>2</sub> 3,7%	-	SO <sub>3</sub> 0,01%	≤0,5%
Fe <sub>2</sub> O <sub>3</sub> 13,2%	-	Cl <sup>-</sup> 0,01%	≤0,10%	Alcalis 0,14%	≤0,4%
Usual value	Specification	Usual value	Specification		
Compressive strength 6h(MPa): 55	≥18,0	Compressive strength 24h(MPa): 75	≥40,0		
Initial setting time (min): 200	≥90	Final setting time (min): 220	≤720		
Blaine specific surface (cm <sup>2</sup> /g): 3200					
Additional properties:					
Main mineralogical component: CaAl <sub>2</sub> O <sub>4</sub>			Segger cone: 9 (1315°C)		
Secondary mineralogical components: Ca <sub>2</sub> FeAlO <sub>5</sub> , Ca <sub>12</sub> Al <sub>14</sub> O <sub>33</sub> , β-Ca <sub>2</sub> SiO <sub>4</sub> , Ca <sub>3</sub> TiFe <sub>2</sub> O <sub>8</sub> , FeO					
Laser Particle Size D (v,0.9)(μm) less than 70 microns					
Bulk density (g/cm <sup>3</sup> ): 1,1			Specific gravity (g/cm <sup>3</sup> ): 3,2		

AENOR certifies compliance of this cement with the specifications of the UNE-EN 14647, evaluating it in accordance with what is established in the Particular Regulation RP 15.01 (Aenor quality certification). As a common cement, it also has the corresponding certificate of CE compliance. This cement does not need an additional reducing agent of Chrome (VI). AENOR also certifies the fulfillment of the regulation limit of the soluble Cr (VI) content according to UNE-EN 196-10.





### SHIPPING AND STORAGE:

- Available in bulk, in big-bags of 1,200 and 1,500 kg and in bags of 25 kg.
- The bags and big-bags should be stored in dry and ventilated places.
- Bulk storage should take place in sealed silos.

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### RECOMMENDED FOR MORTARS AND CONCRETES:

- That harden rapidly, even in cold weather.
- That are resistant to the attack of sulphates and certain acids ( $\text{pH} \geq 4$ ). Chemical and bacteriological resistance.
- That are resistant to abrasion and the mechanical impact.
- Products made for the construction chemistry industry that are characterised by rapid setting and hardening (water leak sealers, adhesives, repair mortars, grouts, self-levellers, etc.) and by rapid hardening and drying with dimensional control (self-levellers, grouts, etc.).
- That are refractory, refractory-insulators and even resistant to the thermal shock.

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### NOT RECOMMENDED 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.

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### PRECAUTIONS FOR USE IN WORKS:

- In view of its high reactivity, mortars and concretes with **Electroland** must be cured during the first 24 hours.
- Minimum cement dosage of 400 kg/m<sup>3</sup>.
- 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.



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IR-0092/1998  
UNE-EN-ISO 9001

For more information contact us or see Appendix A of Standard EN - 14647 and domestic standards.