

Technical data sheet

HiPerCem[®] – Building Chemistry



General information

HiPerCem[®] is Calucem's new Calcium Aluminate Cement (CAC) binder system developed for use in highly sophisticated building chemistry formulations. HiPerCem[®] is a very reactive, white Calcium Aluminate Cement that combines the high content of the reactive Monocalciumaluminate (CA) phase with an optimized particle size distribution and specific surface area. It does not contain any additives.

HiPerCem[®] has been designed to meet the demands of building chemistry formulators enabling them to create highly sophisticated products.

HiPerCem[®] combines classical Calcium Aluminate Cement properties such as rapid setting and rapid hardening, shrinkage compensation, abrasion- and corrosion-resistance with white colour.

That means that it can be used for all Calcium Aluminate Cement containing building chemistry formulations - also including those, designed for colored decorative coatings.

All production parameters are strictly kept and monitored.

HiPerCem[®] has a shelf-life of approximately twelve (12) months when stored under dry conditions in paper bags or in 1 t big bags in the unopened original packing.

Production

HiPerCem[®] is produced by fusing selected raw materials in special kilns. After cooling, the clinker is ground using ball mills.

Technical data

HiPerCem[®] quality is strictly controlled at our production facility. The technical specifications are listed in the tables below. The usual range values are representative production values

Chemical composition

Main Constituents	Usual Range	Specification Limit
Al ₂ O ₃	63.0–65.0	> 62.5
CaO	33.0-35.0	< 35.5
SiO ₂	0.20-0.50	
Fe ₂ O ₃	0.05-0.20	
MgO	< 0.50	
TiO ₂	< 0.30	
Na ₂ O+K ₂ O	< 0.40	
SO ₃	< 0.20	

Mineralogical composition

Main mineral phase: CA

Minor mineral phases: CA₂, C₁₂A₇

	Usual Range	Specification Limit
CA (%)	92 - 98	> 90
C ₁₂ A ₇ /CA	< 0.02	

Fineness

	Usual Range	Specification Limit
Blaine (cm ² /g):	4300 - 4700	> 4300
Residue 90µm:		< 5.0

Color

	Usual Range	Specification Limit
L *	89.0 - 92.0	> 88.0
a *	0.1 < a < 0.7	
b *	1.5 < b < 2.8	

*measured with Konica Minolta CR-410 on pressed powder sample

Additional Information (for guidance only)

Bulk density approx.:	0.9 g/cm ³
Specific gravity:	2.90–3.05 g/cm ³

Quality

Like for all other Calucem products, the production of HiPerCem[®] is subject to stringent quality control. Constant monitoring of all components ensures a consistent quality. The production plant is certified according to EN ISO 9001 – certificate number CH08/1542 and the Environmental Management System EN ISO 14001 – certificate number CH08/1543.

Safety instructions

The standard safety measures for cement must be followed. You will find further information in our Safety Data Sheet.

All previous Technical Data Sheets are no longer valid.