

General information

BRICOCEM is a highly reactive binder based on Calcium Aluminate Cement and is especially designed for the compaction or briquetting of solid process residues.

BRICOCEM offers an excellent solution for compaction of difficult materials with properties such as:

- Very small particle diameter (dusty)
- High residual moisture (sticky)
- Particles with high aspect ratio

BRICOCEM is available in big bags and in bulk.

Technical Data

The following information represents typical values for the quality control carried out in our plant.

Chemical composition (%)

SiO ₂	≤6
Al ₂ O ₃	37-43
Fe ₂ O ₃	12-17
CaO	34-38
MgO	< 1.5
SO ₃	< 0.4

Mineralogical composition

BRICOCEM mainly contains monocalcium aluminate (CA). This mineral phase is responsible for the high early strength. When mixed with water BRICOCEM forms calcium aluminate hydrates as its hydration products.

Mineral phases of BRICOCEM

Main mineral phase:	CA
Minor mineral phases:	C ₄ AF, C ₂ AS, C ₁₂ A ₇

Cement technical properties

Residue on sieve at:	90 μm < 5%
Fineness (Blaine) approx.:	2800-3500 cm ² /g
Bulk density approx.:	1.15 g/cm ³
Specific gravity:	3.2-3.3 g/cm ³
Refractoriness in cement approx.:	1270 °C

Setting time and water demand

Setting time is measured using standard mortar, in order to describe the behavior of BRICOCEM in mixtures with a workable consistency, i.e. under conditions close to reality. A mixture containing CEN-standard sand and using a water/cement ratio of 0.40 is used for testing the mortar on basis of EN 14647.

	Mortar
Initial set	< 60 min
Final set	max. 20 min after initial set
Water demand	26 ± 2%

Development of strength

After setting, strength develops very rapidly. BRICOCEM is a binder with very high early strength and high compressive strength. After four (4) hours, the compressive strength is higher than that of high grade Portland cements CEM I 52.5 R after 1 day.

Time	4h
Compressive strength	> 18 N/mm ²

The tests are conducted with mortar prisms (4 x 4 x 16 cm), produced according to EN 14647, containing CEN-standard sand and using a water/cement ratio of 0.40.

Quality

Like all other Calucem products, the production of BRICOCEM is subject to stringent quality control. Constant monitoring of all components ensure a consistent quality. The production plant is certified according following standards: ISO 9001:2015; ISO 14001:2015; ISO 50001:2018 and ISO 45001:2018

Safety instructions

The normal safety measures for cement must be followed. You will find further information in our safety data sheet.