Product Data Sheet

Reference FC-TernalEV-CH-GB-KFR-032009

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TERNAL® EV

Building Chemistry

1 Description

TERNAL® EV is a functionalized calcium aluminate specifically designed for high performance flooring compounds.

TERNAL® EV is based on a new mineralogical composition, and incorporates a reactivity control system designed to assist in the formulation of high specification mortars. More specifically, TERNAL® EV includes sufficient lime within its calcium aluminate mineralogy, such that when combined with a suitable source of calcium sulphate, the correct stoichiometry for optimal ettringite formation is readily achieved.

Therefore, no further addition of portland cement or lime is required in the mix design, and according to this binary formulation logic, systems built on Ternal EV demonstrate excellent performance characteristics and a very high degree of in use consistency.

Moreover, TERNAL® EV performance permits the incorporation of lower levels of organic additives than experienced with traditional flooring compounds.

The lower alkaline level of binary TERNAL® EV systems further allows a generous compatibility with a wide range of organic reactivity modifiers that can be introduced to regulate essential final product characteristics such as set, hardening, flow, dimensional stability, foaming, mixing and surface features. The built-in reactivity control system eliminates the requirement for additional superplasticizer.

TERNAL® EV is compatible with all calcium sulphates.

TERNAL® EV is lighter in color than many other calcium aluminates and allows the development of a distinctive range of high performance flooring compounds.

This set of features makes TERNAL® EV the product of choice for the development of a new generation of sustainable flooring compounds to meet the latest environmental concerns.

TERNAL® EV is produced and controlled within a quality management system which is certified according to the standard ISO 9001.

2 Specifications

The specification limits are determined with an Acceptable Quality Level (AQL) of 2.5% as defined in the sampling standard ISO 3951.

The usual range represents typical values of our production.

Chemical composition

	Usual range
Al_2O_3	33.5 - 37.5
CaO	47.5 - 50.5
SiO_2	3.5 - 6.0
Fe_2O_3	6.5 - 9.0

- Determined according to the standard EN 196-2: Methods of testing cement - Chemical analysis of cement.

Mineralogical composition

Main phases[1] : $C_{12}A_7$, CA, C_3A, C_4AF, C_2S

[1] C=CaO, A=Al_2O_3, S=SiO_2, F=Fe_2O_3

Fineness

	Usual range
% < 2.6 microns [1]	< 10
% > 90 microns [2]	< 4

[1] Measurements made with a laser particle size analyser (operating conditions: powder dispersed in pressurized air)
[2] From sieve analysis

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Colour

	Usual range
L*	64 - 69
a*	4.5 - 6.5
b*	24 - 28

- Colour measured on the powder (pressed pellet), within CIE Lab system, light D65. Standard observation angle: 10°.

3 Additional data

This information is given for guidance only.
Bulk density: 1200 - 1400 Kg/m^3
Specific gravity: 2.5 - 2.6 g/cm^3

4 Storage and Shelf Life

In common with all hydraulic binders, TERNAL® EV must be stored in dry conditions, off the ground.
In these conditions, it will retain its properties for at least 6 months.