

## TERNAL<sup>®</sup> EV Building Chemistry

Reference PDS-TERNAL EV-CH-KER- EN-042015

Updated 04/2015

### 1 Description

TERNAL<sup>®</sup> EV is a calcium aluminate binder designed for optimal ettringite formation in flooring compounds. TERNAL<sup>®</sup> EV makes it possible to develop an entire range, from mid to high performance self-levelers.

TERNAL<sup>®</sup> EV is the Ettringite engine with low Viscosity and built-in flow. Its mineralogy is specifically engineered for the development of binary formulations. TERNAL<sup>®</sup> EV has an embedded lime content that ensures that when it is combined with a suitable source of calcium sulfate, the correct stoichiometry for optimal ettringite formation is readily achieved – without any addition of Portland cement.

TERNAL<sup>®</sup> EV has an intrinsically high reactivity that renders it more robust to factors such as: varying climatic conditions, changing substrates' quality, variable levels of impurities in other raw materials.

TERNAL<sup>®</sup> EV is a most efficient route for ettringite formation, powering: outstanding reactivity for the fastest walk-on times & return to service; and superior stability & predictability of the drymix materials obtained.

TERNAL<sup>®</sup> EV is lighter in colour than many other calcium aluminates and allows the development of a distinctive range of drymix mortars

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

### 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	Specification limit
Al <sub>2</sub> O <sub>3</sub>	34.5 - 38.5	> 34
CaO	46.5 - 50.0	< 51
SiO <sub>2</sub>	4.0 - 5	< 6
Fe <sub>2</sub> O <sub>3</sub>	6.5 - 8	< 9

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

#### Mineralogical composition

Main phases<sup>1)</sup> : C<sub>12</sub>A<sub>7</sub>, CA, C<sub>3</sub>A, C<sub>4</sub>AF, C<sub>2</sub>S

<sup>1)</sup> C=CaO, A=Al<sub>2</sub>O<sub>3</sub>, S=SiO<sub>2</sub>, F=Fe<sub>2</sub>O<sub>3</sub>

#### Fineness

	Usual range	Specification limit
% < 2.6 microns <sup>1)</sup>	< 10	
% < 65 microns <sup>1)</sup>	75 - 90	
% > 90 microns <sup>2)</sup>	1.5 - 3.5	< 5 %

<sup>1)</sup> Measurements made with a laser particle size analyser (operating conditions: powder dispersed in pressurized air)

<sup>2)</sup> From sieve analysis

#### Colour

	Usual range	Specification limit
L*	64 - 69	63 - 70
a*	4.5 - 6.5	
b*	23 - 27	

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

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### 3 Additional data

This information is given for guidance only.

Bulk density: 1200 - 1400 Kg/m<sup>3</sup>

Specific gravity: 2.85 - 3.05 g/cm<sup>3</sup>

### 4 Storage and Shelf Life

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