

TERNAL[®] EP

Building Chemistry

Reference PDS-TERNAL EP-CH-EN-KFR-042015

1 Description

TERNAL[®] EP is a calcium aluminate binder designed for optimal ettringite formation in both fluid and non-flow drymix mortars.

TERNAL[®] EP is the Ettringite engine in Plain form. Its mineralogy is specifically engineered for the development of binary formulations. TERNAL[®] EP 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[®] EP 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[®] EP 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[®] EP is lighter in colour than many other calcium aluminates and allows the development of a distinctive range of drymix mortars

TERNAL[®] EP 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 ₂ O ₃	34.5 - 38.5	> 34
CaO	46.5 - 50.0	< 51
SiO ₂	4.0 - 5	< 6
Fe ₂ O ₃	6.5 - 8	< 9

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

Mineralogical composition

Main phases ¹⁾: C₁₂A₇, CA, C₃A, C₄AF, C₂S

¹⁾ C=CaO, A=Al₂O₃, S=SiO₂, F=Fe₂O₃

Fineness

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

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

²⁾ 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°.

3 Additional data

This information is given for guidance only.

Bulk density: 1200 - 1400 Kg/m³
Specific gravity: 2.85 - 3.05 g/cm³

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4 Storage and Shelf Life

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

Kerneos warrants that the product complies with the specifications stated herein to the exclusion of any other warranty, express or implied. Kerneos makes no representation or warranty of any kind, either expressed or implied, as to the suitability or fitness for a particular purpose or use of the product. The warranty shall be limited to the replacement of the non-conforming products or, at Kerneos option, the refund of the purchase price. Any technical advice, recommendations or information are given based on Kerneos current knowledge and experience of the products and are deemed to be accurate. However, Kerneos undertakes no liability or responsibility of any kind with respect thereof. Users are invited to check that they have the latest version of this document.