Dyckerhoff

Buzzi Unicem Next base

The hydraulic binder based on calcium sulphoaluminate clinker

Buzzi Unicem **Next base** is a hydraulic binder which is based on calcium sulphoaluminate clinker, created from a mixture of bauxite, gypsum and lime heated to a temperature of approximately 1350 °C and then subsequently ground with an anhydrite.

Next base can be utilised alone as a rapid-hardening binding agent or combined with cement according to DIN EN 197. This enables the formation of products with low shrinkage and faster strength development. **Next base** makes it possible to develop mortars and concretes with a wide range of performance levels, and is compatible with commonly used additives for regulating the setting time, liquefaction, viscosity, shrinkage compensation, acceleration, curing time, etc.

CE
ETA 13/0417

Next base is classified as CE compliant

Deutsches Institut für Bautechnik DIBt

Next base has been granted a national technical approval for construction products

No. Z-3.15 2130

Chemical composition

Components	
CaO	41–45 %
Al_2O_3	22–26 %
SiO_2	8–9 %
SO_3	17–19 %
Cl^-	< 0,1 %
Cr(VI)	< 2 ppm

Mineralogical composition

Main components of the hydraulic binder		
CSA clinker		approx. 82 %
Calcium sulphate	$C\bar{S}$	approx. 18 %
Calcium sulphoaluminate	$C_4A_3\bar{S}$	approx. 50 %

Binding properties

Properties	Average values
Density	approx. 2.8 kg/dm³
Specific surface [DIN EN 196-6]	approx. 5,000 cm²/g
Color	light gray

Binding agent data according to DIN EN 196

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Compressive strength after 3 hours	> 20 MPa
Compressive strength after 24 hours	> 30 MPa
Compressive strength after 28 days	> 42,5 MPa
Initial set	10 ± 5 min.
Water demand	approx. 33 ± 2 %

Application examples

Next base can be utilised as a stand-alone product or in combination with cement according to DIN EN 197 for many concrete and mortar related, technological and construction chemical products:

– Rapid hardening dry mortar and spray concrete
– Injection mortar and slurries
– Rapid hardening, shrink reducing screeds and repair mortars for internal and external
– Rapid hardening concrete for precast elements

Utilisation of **Next base**
– at low temperatures,
– in high, sulphate content conditions and
– with ASR risks
is especially appropriate.

Special design mixing requirements:
We recommend a mixture of **Next base** and cement according to DIN EN 197 of between 30 and 70 weight % for shrinkage reduction applications.
The setting time and compressive strength development can be controlled with delaying additives (e.g. citric or tartaric acid) and accelerants (e.g. lithium carbonate).

Delivery method

Next base can be supplied loose, in bags up to 25 kg or in big-bags.

Environment and sustainability

Due to the small amounts of limestone in the raw materials and the low firing temperatures, it is possible to achieve significant reductions in CO_2 emissions.

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