Next clinker is a hydraulic binder based on calcium sulpho aluminate clinker obtained by the burning of a mix of bauxite, gypsum and limestone at a temperature of approximately 1,350°C subsequently ground.
In the products in which it is used, **Next clinker** guarantees constant performances and excellent stability during storage.
Next clinker can be used in ternary systems containing Portland cement and anhydrite to obtain products that are low shrinkage and rapidly develop strength in only a short curing time.
Next clinker gives the elements for which it is used excellent durability, low permeability to aggressive substances and extremely high resistance to sulphate attacks.

Buzzi Unicem

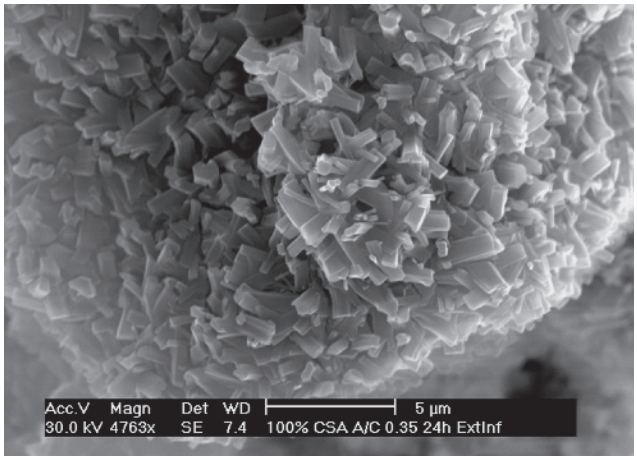
Next clinker SX01 Hydraulic binder made with calcium sulpho aluminate clinker

Physical characteristics

Density	2,800 kg/m^3
Blaine spec. surface [standard UNI-EN 196-6]	5,900 ± 500 cm^2/g
Colour	light grey

Mineralogical analysis

$C_4A_3\bar{S}$	> 52%
C_2S	< 25%
$C\bar{S}$	< 6%



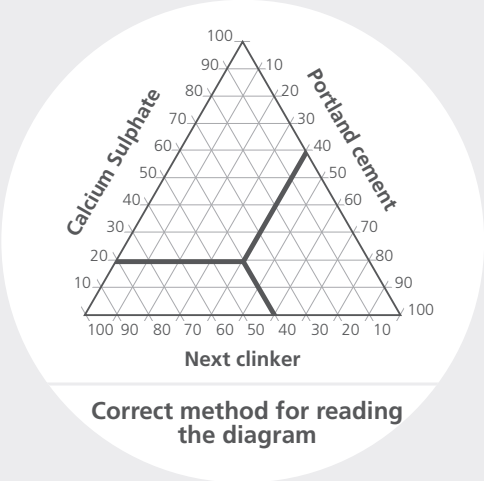
Chemical analysis

CaO	40 – 46%
Al_2O_3	25 – 31%
SiO_2	8 – 12%
SO_3	7 – 12%
Cl^-	< 0.1%
Cr VI	< 2.0 ppm

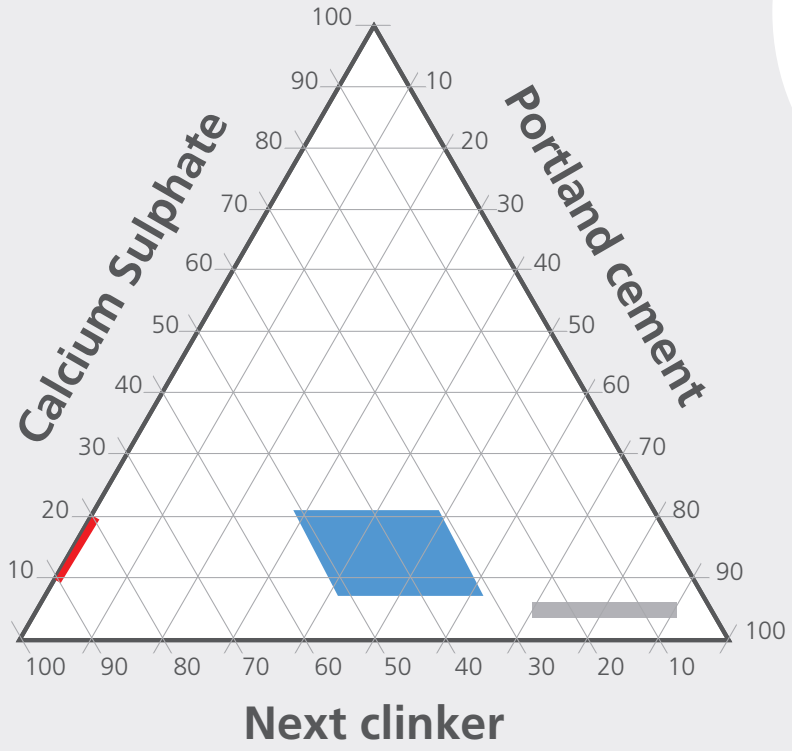
Ternary diagrams

The ternary diagrams below graphically depict the various formulations of binders that can be obtained from combinations of sulpho aluminate clinker, calcium sulfate and Portland cement. The three different zones correspond to three distinct performance levels that can be obtained with the **Next** family of binders.

- Zone corresponding to formulations of binders composed of Portland cement with accelerated setting times depending upon the proportion of **Next base**.
- Zone corresponding to binary systems based on **Next clinker** and calcium sulfate, to which **Next base** belongs, with high mechanical performances and short setting times; these products also serve as the ideal base for formulating ternary binders.
- Zone corresponding to ternary systems, which optimize the balance between rapid setting times, rapid strength development, rapid drying and dimensional stability (**Next binder** type) in the products in which they are used.



Correct method for reading the diagram



- Rapid strength development composition
- Low shrinkage and rapid strength development compositions
- Accelerator for Portland cements

Applications

Next clinker can be used in ternary systems combined with Portland cement and anhydrite in a large number of applications typical of the pre-mix dry mortar and small precast industry.

- It can be mixed with anhydrite and Portland cement to formulate binders suitable for producing premix products that are quick hardening and drying, together with high strength and low shrinkage characteristics.
- Next clinker can be used in the same applications as aluminous cements with the following advantages:

- **Next clinker** can be stored for longer periods of time than aluminous cements, either in its original packaging or when formulated in products, without a significant loss of its performance characteristics.
- Used to formulate quick binders, **Next clinker** shows greater reactivity and better strength development than similar mixtures made with aluminous cements.

Warnings

- **Next clinker** is obtained by grinding CSA clinker without further additions of mineral components or organic admixtures: slight variations in the performances listed in this data sheet should be considered as entirely physiological.
- We recommend using **Next base** for preparing ternary mixtures in combination with Portland cement and anhydrite.
- **Next clinker** can be supplied in bulk, in 25-kg bags or in big-bags.
- The use of **Next clinker** is not recommended for the production of materials exposed to extremely high temperatures, such as refractory materials or mortars used to build ovens or similar products.
- For additional information, it is recommended to read the user manual of **Buzzi Unicem Next**.
- Consult the safety data sheet, which can be downloaded from the website *www.buzziunicem.it*.

Range of products made with CSA

Next base

Binder made with calcium sulpho aluminate and anhydrite, for the formulation of products characterized by low shrinkage and quick development of mechanical strength.

Next binder

Ternary binder (made from the combination of CSA clinker, anhydrite and Portland cement), ready-to-use for precast and for the production of pre-mix dry products, such as self-levelling screeds, quick-setting mortar and concrete with limited shrinkage.

Environmental sustainability

Due to the low content of calcium carbonate in the raw materials, the production cycle of the Next products features reduced emissions of CO_2 in the environment.

Note: *The instructions provided in this document are the result of our best experience and are merely indicative. No responsibility is taken for defects or damages caused by misuse of the product or when the conditions of its use differ from our instructions. The Technical Assistance Department is always available for any advice and suggestions concerning proper use of the product and for the performance of technical tests.*

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