

CEM IV/A (V) 42,5 R-SR

UNE-EN 197-1 CEM IV/A (V) 42,5 R-SR

Sulfate resisting pozzolanic cement



Pozzolanic cement can be used in mass and reinforced concretes. It is indicated to improve the durability of concretes exposed to chemical aggressive agents or to reduce the potential alkali-silica reaction. Recommended to improve the performance of concrete in sulphate or sea water environments.

Composition

The European Standard EN 197-1 specifies the main and the minor additional constituents of these cements and their proportions in percentage by mass:

Components	(%) ⁽¹⁾
Clínter	65-89
Siliceous fly ash	11-35
Minor additional constituents ⁽²⁾	0-5

(1) The values in the table refer to the sum of the main and minor additional constituents.

(2) Minor additional constituents are specially selected, inorganic natural mineral materials, inorganic mineral materials derived from the clínter production process or main constituents unless they are included as main constituents in the cement

Mechanical & physical requirements.

The mechanical and physical requirements specified by EN 197-1 for these cements are:

Compression strength (MPa)		Initial setting time (min)	Soundness (expansion) (mm)
Early (2 days)	Standard (28 days)		
≥ 20	≥ 42,5 y ≤ 62,5	≥ 60	≤ 10

Chemical requirements.

The chemical requirements specified by EN 197-1 for these cements are

Property	Requirements ⁽¹⁾
Sulphate content (SO ₃)	≤ 4,0 %
Chloride content (Cl ⁻)	≤ 0,10%
Puzzolanicity	A 8 días
C3A in clínter ⁽²⁾	≤ 9,0 %

(1) Given as percentage by mass of the final cement.

(2) Given as percentage by mass of the clínter used.

This cement has the AENOR product N mark that guarantees compliance with Cr (VI) as well as higher quality vs the minimum required in the standard.



Uses and applications

This cement can be used or is indicated for:

- Mass and reinforced concretes.
- Massive concretes.
- Concretes exposed to chemical aggressive agents in general.
- Concretes exposed to sea water or in sulphate environments.
- Concretes with potential reactive aggregates.
- Masonry.

In Spain, this type of cement can not be used in prestressed concretes (table 28 of the Structural Code).

Additional applications

You can have more information about the uses and applications of this cement in the annexe 8 of the Spanish Instruction RC and in the Structural Code.

Storage

The cement must be stored in conditions that isolate it of the humidity. In the case of bag cement it must be piled up on pallets and will be conserved in covered zones, ventilated and protected of the direct exposure to the sun or rain.

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