



1 GENERAL INFORMATION

According to the TS EN 197-1:2012 standard, Çimsa Resistant SR (CEM I 42.5 N SR 5) sulfate-resistant Portland cement consists only of Portland cement clinker and gypsum, following the guidelines of the TS EN 197-1:2012 standard.

Advantages in applications;

- If the concrete is exposed to sulfate from groundwater, seawater, or other sources, the product enhances the performance of the final product by having the C₃A content of the clinker below 5%. This enhances the resistance to sulfate attacks.
- The product provides high early strength, making it ideal for applications such as metro tunnels and precast projects to reduce formwork time.
- The product generates more heat of hydration, which is advantageous in cold weather, and helps mitigate the effects of low ambient temperatures, facilitating the manufacturing process.
- All typical concrete additives (e.g., plasticizing, air entraining, setting retarding additives) can be used with our Çimsa Resistant SR cement product.

2 AREAS OF APPLICATION

Çimsa Resistant SR Portland cement, suitable for general use, finds application in various areas:

- The product increases resistance to sulfate in structures such as bridges, dams, sea, and port structures that may be exposed to sulfate sources from sulfated ground, seawater, and groundwater.
- The product can be used in various applications such as ready mixed concrete, construction of tunnel sections, shotcrete, repair mortars, ready-to-use dry mix products and prefabricated structural elements such as beams, panels.

3 PRODUCTION

Consistent product quality is at the core of Çimsa's manufacturing approach. From raw material selection to final delivery, product variability is minimized through comprehensive quality controls at every stage of the production process. Manufacturing processes are certified in accordance with EN ISO 9001, EN ISO 14001, EN ISO 50001, ISO 10002, and ISO 45001 standards.

4 CHEMICAL PROPERTIES

Features	Çimsa Values (%)	Standard Limits (EN 197-1)	
		Min	Max
Insoluble Matter	0,1-0,8	-	-
SiO ₂	18,5-22,0	-	-
Al ₂ O ₃	4,0-5,7	-	-
Fe ₂ O ₃	2,5-5,5	-	-
CaO	62,0-65,0	-	-
MgO	1,0-2,0	-	-
SO ₃	2,4-3,0	-	4,0
Loss on Ignition	1,5-5,0	-	-
Na ₂ O	0,1-0,3	-	-
K ₂ O	0,4-0,6	-	-
Chloride (Cl)	0,01-0,03	-	0,1
Na ₂ Eq	0,40-0,60	-	-
C ₃ A	3,0-5,0	-	5,0

5 PHYSICAL PROPERTIES

Properties	Çimsa Values	Standard Limits (EN 197-1)	
		Min	Max
Specific Weight	3,1-3,2 gr/cm ³	-	-
Specific Surface (Blaine)	4000-5300 cm ² /gr	-	-
Initial Setting	140-260 min	60	-
Final Setting	180-350 min	-	-
Water	%26-30	-	-
Stability (Le Chatelier)	1,0 mm	-	10
Residue at 45 microns	%0,2-1,0	-	-
Compressive Strength(2 days))	24-33 MPa	20	-
Compressive Strength(7 days))	38-48 MPa	-	-
Compressive Strength(28 days))	53-63 MPa	42,5	-

6 QUALITY CONTROL

Çimsa Resistant SR Cement is subject to quality control in accordance with EN 197-1. It is supplied to domestic and international markets with CE certification.

7 SAFETY INSTRUCTIONS

General safety requirements applicable to cement products shall be observed. For further information, please refer to the Safety Data Sheet for Çimsa Resistant SR Cement.

8 STORAGE CONDITIONS AND SHELF LIFE

Çimsa Resistant SR Cement should be stored in a dry and protected environment. Under these conditions, it retains its properties for a minimum of 3 months. Based on previous studies, it has been observed to maintain its performance for more than one year. Bags should not be stacked more than 10 high or more than 2 pallets high. The product should be stored in its original packaging. When not in use, the bag should be kept tightly sealed.

