



1 GENERAL INFORMATION

In accordance with the TS EN 197-1:2012 standard, Çimsa Rapid 42.5 (CEM I 42.5 R) Portland cement comprises solely Portland cement clinker and gypsum. The product is formulated to achieve rapid strength development in concrete.

The advantages offered by Çimsa Rapid 42,5N Portland cement for applications;

- The product offers high early strength, reducing formwork time in applications such as subway tunnels, ready-mixed concrete, and precast structures. The product also accelerates precast production.
- The product generates more heat during hydration, which proves advantageous in cold weather. This helps mitigate the effects of low ambient temperatures and facilitates manufacturing.
- All common concrete additives (e.g., plasticizers, air-entraining agents, setting retarders) can be used with Çimsa Rapid 42.5 cement.

2 AREAS OF APPLICATION

Çimsa Rapid 42.5 Portland cement, suitable for general use, finds application in the following areas:

- The product offers high early strength, reducing formwork time in applications such as subway tunnels, ready-mixed concrete, and precast structures. The product also accelerates precast production.
- The product generates more heat during hydration, which proves advantageous in cold weather. This helps mitigate the effects of low ambient temperatures and facilitates manufacturing.
- All common concrete additives (e.g., plasticizers, air-entraining agents, setting retarders) can be used with Çimsa Rapid 42.5 cement.

3 PRODUCTION

Stability is at the focal point of Çimsa production facilities, the variability in product parameters is minimized by the controls performed in every process from raw material to delivery. Production processes are certified according to 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 Residue	0,3 - 0,4	-	5,0
SiO ₂	18,5 - 19,5	-	-
Al ₂ O ₃	4,5 - 5,1	-	-
Fe ₂ O ₃	2,5 - 3,8	-	-
CaO	62,0 - 64,0	-	-
MgO	1,5 - 2,5	-	-
SO ₃	2,70 - 3,20	-	4,0
Loss on Ignition	2,5 - 4,0	-	5,0
Na ₂ O	0,2 - 0,3	-	-
K ₂ O	0,8 - 1,0	-	-
Chloride (Cl)	0,02 - 0,05	-	0,10

5 PHYSICAL PROPERTIES

Properties	Çimsa Values	Standart Limiti (EN 197-1)	
		Min	Max
Specific Weight	3,11 gr/cm ³	-	-
Specific Surface (Blaine)	3800-4300 cm ² /gr	-	-
Initial Setting Time	140 -200 min	60	-
Final Setting Time	210-270 min	-	-
Water	26-27%	-	-
Soundness (Le Chatelier)	1,0 mm	-	10
0,045mm Residue on Sieve	1,2-2%	-	-
2 - Day Compressive Strength	29-33 MPa	20	-
28 - Day Compressive Strength	52-57 MPa	42,5	62,5

6 QUALITY CONTROL

Çimsa Rapid 42,5 cement is subjected to quality control in accordance with EN 197-1 standards. It is offered to domestic / foreign markets with the CE certificate.

7 SAFETY INSTRUCTIONS

Standard safety requirements for general cements are observed. For more information, please see the Çimsa Rapid 42,5 cement material safety data sheet.

8 STORAGE CONDITIONS AND SHELF LIFE

Çimsa Rapid 42,5 cement should be stored in dry and sheltered environments. In this case, it retains its properties for at least 6 months. Based on previous studies, it has been observed that it retains its properties for more than a year. It should not be stacked on top of each other more than 10 bags or 2 pallets. The product should be stored in its original packaging. When not in use, the package should be tightly closed.