

Çimsa Resistant LA

TECHNICAL DATA SHEET

1 GENERAL INFORMATION

Çimsa Resistant LA (CEM I 52.5 N) Portland cement comprises only Portland cement clinker and gypsum, following the TS EN 197-1:2012 standard. The product is formulated to achieve high ultimate strength in concrete.

Advantages in applications;

- The product provides high early strength, making it ideal for applications like metro tunnels and precast projects to expedite form removal. It also accelerates precast manufacturing.
- The product generates more heat during hydration, which proves advantageous in cold weather. This assists in mitigating the effects of low ambient temperatures and supports manufacturing.
- Its low equivalent alkali content reduces the potential for alkali-aggregate reactions, which can cause durability issues.
- All typical concrete additives (e.g., plasticizers, air-entraining agents, setting retarders) can be used with our CEM I 52.5 N cement.

2 AREAS OF APPLICATION

Some application areas of Çimsa Resistant LA Portland cement, which is suitable for general use, are as follows:

- With its high ultimate strength, the product is designed to offer the best results for building reinforcement projects using high-strength concrete, prefabricated, pre-stressed concrete, concrete crossbars, and thin-section reinforced concrete.
- With its reliable strength and stable color, the product shall be used in the production of construction chemicals and in the production of architectural concrete dominated by exposed concrete surfaces.

3 PRODUCTION

Stability forms the core of Çimsa's production facilities, with product parameter variations minimized through controls implemented at every process stage, spanning from raw materials to delivery. The production processes carry certifications compliant with EN ISO 9001, EN ISO 14001, EN ISO 50001, ISO 10002, and ISO 45001 standards.

4 CHEMICAL PROPERTIES

| Properties | Çimsa Values (%) | Standard Limit (EN 197-1) | |
|--------------------------------|------------------|---------------------------|------|
| | | Min. | Max. |
| Insoluble Residue | 0,2-0,5 | - | 5,0 |
| SiO ₂ | 18,5-20,0 | - | - |
| Al ₂ O ₃ | 5,0-5,7 | - | - |
| Fe ₂ O ₃ | 2,5-3,2 | - | - |
| CaO | 62,0-65,0 | - | - |
| MgO | 1,2-2,0 | - | - |
| SO ₃ | 2,6-3,2 | - | 4,0 |
| Loss on Ignition | 1,5-2,5 | - | 5,0 |
| Na ₂ O | 0,1-0,2 | - | - |
| K ₂ O | 0,4-0,6 | - | - |
| Chloride (Cl) | 0,01-0,03 | - | 0,10 |
| Na ₂ Eq | 0,40-0,60 | - | - |

Çimsa Afyon Factory
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5 PHYSICAL AND MECHANICAL PROPERTIES

| Properties | Çimsa Values | Standard Limit (EN 197-1) | |
|-----------------------------|-------------------------------|---------------------------|------|
| | | Min. | Max. |
| Specific Weight | 3,14 gr/cm ³ | - | - |
| Specific Surface (Blaine) | 4000-5300 cm ² /gr | - | - |
| Initial Setting | 140-220 Minutes | 45 | - |
| Final Setting | 180-290 Minutes | - | - |
| Water | %26-30 | - | - |
| Soundness (Le Chatelier) | 1,0 mm | - | 10 |
| 0,045mm Residue on Sieve | %0,2-0,4 | - | - |
| 2-day Compressive Strength | 28-33 MPa | 30 | - |
| 28-day Compressive Strength | 57-63 MPa | 52,5 | - |

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6 QUALITY CONTROL

Çimsa Resistant LA cement undergoes quality control in accordance with EN 197-1 standards. The product is available in both domestic and foreign markets with a CE certificate.

7 SAFETY INSTRUCTIONS

We adhere to standard safety requirements for general cements. For more detailed information, please refer to the safety data sheet for Çimsa Resistant LA cement.

8 STORAGE CONDITIONS AND SHELF LIFE

Çimsa Resistant LA should be stored in dry and sheltered environments. This ensures the product retains its properties for a minimum of 6 months. Based on previous studies, the product has been observed to maintain its properties for over a year. Bagged products should not be stored for more than 3 months. It is advised not to stack more than 10 bags or 2 pallets on top of each other. The product must be stored in its original packaging, and the package should be tightly closed when not in use.

