



ÇİMSA

CEM I 52,5 N
RESISTANT LA



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LOW ALKALI, HIGH DURABILITY



Çimsa Resistant LA 52.5 is a high-performance Portland cement designed to reduce the risk of alkali-aggregate reaction (AAR) thanks to the low alkali content. The product belongs to the CEM I 52.5 N strength class and ensures reliable results in projects where long-term durability and high ultimate strength are required. The cement provides superior performance in precast element production, prestressed concrete, concrete sleepers, tunnel segments, shotcrete, and repair mortars. Stable color ensures an aesthetic appearance in architectural and exposed concrete applications. A perfect choice for engineering projects demanding durability, consistent performance, and aesthetic integrity.

ÇİMSA RESISTANT LA (CEM I 52.5 N) PORTLAND CEMENT IS PRODUCED IN ACCORDANCE WITH THE TS EN 197-1:2012 STANDARD AND HAS THE FOLLOWING PROPERTIES:



Chemical Properties	Çimsa Values (%)	Standard Limits (EN 197-1)	
		min	max
Insoluble Residue	0,2-0,5	-	5
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
Loss on Ignition	1,5-2,5	-	5
Na ₂ O	0,1-0,2	-	-
K ₂ O	0,4-0,6	-	-
Chloride (Cl)	0,01-0,03	-	0,1
Na ₂ O Equivalent	0,40-0,60	-	-

Physical Properties	Çimsa Values	Standard Limits (EN 197-1)	
		min	max
Specific Gravity	3.14 gr/cm ³	-	-
Specific Surface Area (Blaine)	4000-5300 cm ² /gr	-	-
Initial Setting Time	140-220 Minutes	45	-
Final Setting Time	180-300 Minutes	-	-
Water Demand	26-30%	-	-
Soundness (Le Chatelier)	1.0 mm	-	10
Residue on 0.045 mm Sieve	0.2-0.4%	-	-
2-Day Compressive Strength	28-33 MPa	20	-
28-Day Compressive Strength	57-63 MPa	52,5	-



ADVANTAGES



LOW ALKALI CONTENT

Portland cements with an equivalent alkali content above 0.6% may form alkali-silica gel when used with aggregates containing reactive silica, and the excessive water absorption of this gel can cause cracking in the hardened cement matrix. Çimsa Resistant LA belongs to the class of cements resistant to alkali-silica reaction. The equivalent alkali content remains below the 0.6% limit.



HIGH DURABILITY

Low alkali content minimizes the risk of alkali-aggregate reaction and helps preserve structural integrity for many years. The cement provides high resistance against environmental impacts, chemical attacks, and mechanical stresses, extending the service life of structures and reducing maintenance costs.



MAXIMUM STRENGTH

Provides high ultimate compressive strength at 28 days, creating a strong foundation for long-lasting structures. The Portland cement of the 52.5 strength class ensures stable performance in accordance with the TS EN 197-1 standard.



HIGH EARLY STRENGTH

Delivers rapid load-bearing capacity in structural elements through high early compressive strength. Accelerates formwork cycles with fast strength development within the first two days, offering an advantage in time-sensitive projects.



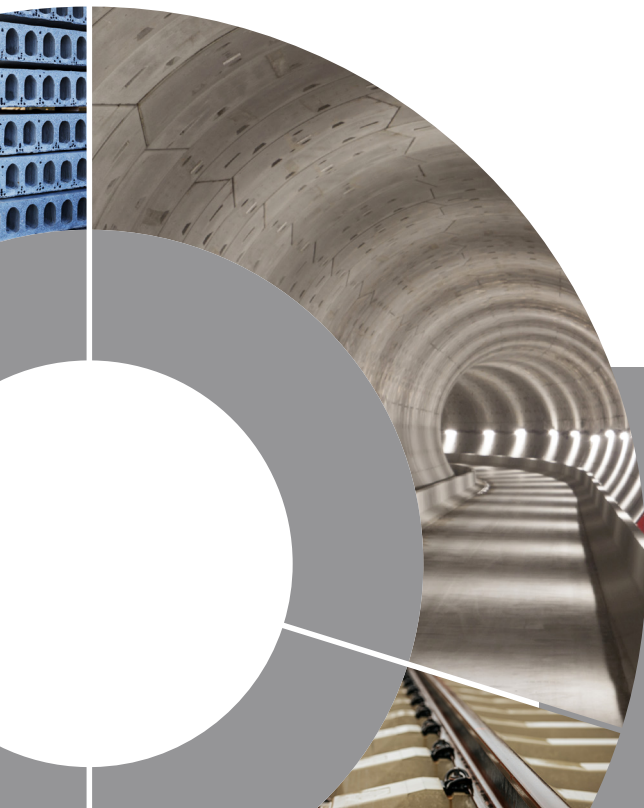
HIGH ULTIMATE STRENGTH

The 52.5 strength class guarantees the integrity of concrete design. Suitable for all concrete classes, providing strength consistency that contributes to durable and safe structures.



FAST PRODUCTION CAPABILITY

Thanks to high early strength development, Çimsa Resistant LA shortens demoulding time and increases production speed. In precast element manufacturing, it saves time and enhances overall efficiency, making it an ideal solution for projects with intensive production schedules.



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