



FARS & KHUZESTAN CEMENT HOLDING

F08/6

BOJNOURD CEMENT CO.

QUALITY CONTROL & LABORATORY DEPARTMENT



بوجنورد سیمان

Passport of Quality

Product	Portland Cement Type 5 C 42,5 M400 Anti Sulfate, High Strength, HSR (High Sulfate Resisting)
Standard of Sample	INSO 389, ASTM C150-2022 , GOST 22266-2013
Date of Report	July 2024

Chemical Analysis	Result	Standard Limitation INSO 389	Standard Limitation ASTM C150	Standard Limitation GOST 22266-2013	Physical Analysis	Result	Standard Limitation INSO 389	Standard Limitation ASTM C150	Standard Limitation GOST 22266-2013
SiO ₂ (%)	21.22	*	*	*	Specific Gravity (ton/m ³)	3.185	*	*	*
Al ₂ O ₃ (%)	4.17	*	*	Max 5	Normal Consistency (%)	23.5	*	*	*
Fe ₂ O ₃ (%)	3.37	*	*	*	Setting Time Vicat test	160	Min 45	Min 45	Min 45
CaO (%)	64.23	*	*	*		03:00	Max 6:15	Max 6:15	Max 10:00
MgO (%)	1.94	Max 6.00	Max 6.0	Max 5	Soundness Expansion				
Na ₂ O (%)	0.34	*	*	*	Autoclave expansion (%)	0.03	Max 0.8	Max 0.8	*
K ₂ O (%)	0.70	*	*	*	Le Chatelier expansion (mm)	1	*	*	*
SO ₃ (%)	2.32	Max 2.30	Max 2.3	Max 2.7	Sulfate Resistance 14 days exp.(%)	0.030	Max 0.040	Max 0.040	*
Insoluble Residue (%)	0.62	Max 1.50	Max 0.75	*	Fineness				
Loss on Ignition (%)	2.41	Max 3.00	Max 3.0	*	Specific Surface, Blaine (cm ² /g)	3460	Min 2600	Min 2800	Min 2500
Free Lime (F.CaO) (%)	1.5	*	*	Max 1.5	Retained on 45 μ Sieve (%)	11.6	*	*	80 μ Max 15
Chloride (%)	0.022	*	*	Max 0.10	Strength Results, Compressive Strength (kg/cm ²)				
Equivalent Alkalies (%) (0.658*K ₂ O+Na ₂ O), Optional	0.80	Max 0.60	Max 0.60	Max 1.20	1 Day	*	*	*	*
Lime Saturation Factor (LSF)	94.10	*	*	*	2 Days	231	Min 102	*	*
Minerological Composition (Bouge Relations)					3 Days	*	*	*	*
C3S , Tricalcium Silicate (%)	60.74	*	*	*	7 Days	361	*	*	*
C2S , Dicalcium Silicate (%)	15.04	*	*	*	28 Days	474	Min 433 Max 637	*	Min 400
C3A ,Tricalcium Aluminate (%)	5.35	Max 5.00	Max 5	Max 5	Heat of Hydration (cal/g), Optional				
2C3A + C4AF	21	Max 25	Max 25	C ₃ A+C ₄ AF Max 22	7 Days	67.61	*	*	*
					28 Days	83.01	*	*	*

Quality Control and Laboratory Management

Lot#



Plant Management

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