



IN THE NAME OF GOD
ILAM CEMENT CO.

Quality Control Dept.

Chemical & Physical Analysis of Cement Type 5

ILAM CEMENT
Date: 27-July-2020



CERTIFICADO N° / CERTIFICATE N°
1170/CPR/CT.03584



Composition	REQUIREMENT			%Mass
	ACCORDING TO			Fraction
	ISIRI 389	ASTM C150	EN 197-1	

CHEMICAL ANALYSIS

Property	Unit	Symbol	ISIRI 389	ASTM C150	EN 197-1	Value
Loss on Ignition	%	LOI	Max3.00	Max3.00	Max 5.00	1.45
Silicon Dioxide	%	SiO2	-	-	-	21.56
Aluminium Oxide	%	Al2O3	-	-	-	4.61
Ferric Oxide	%	Fe2O3	-	-	-	4.81
Calcium Oxide	%	CaO	-	-	-	62.92
Magnesium Oxide	%	MgO	Max 5.00	Max 6.00	-	1.94
Sulfur Trioxide	%	SO3	Max 2.3	Max 2.3	Max 3.00	1.8
Sodium Oxide	%	Na2O	-	-	-	0.16
Potassium Oxide	%	K2O	-	-	-	0.65
Chlorides	%	Cl	-	-	-	0.01
TOTAL		Total	-	-	-	99.91
Insoluble Residue	%	IR	Max 0.75	Max 1.5	Max 5.0	0.24
Free CaO	%	F.CaO	-	-	-	1.12
Lime Saturation Factor	%	LSF	-	-	-	89.45
Silica ration	%	SIM	-	-	-	2.29
Alumina ratio	%	ALM	-	-	-	0.96
Tricalcium Silicate	%	C3S	-	-	-	49.25
Dicalcium Silicate	%	C2S	-	-	-	25.12
Tricalcium Aluminate	%	C3A	Max 5.00	Max 5.00	Max 5.00	4.08
Calcium Alumino Ferrite	%	C4AF	-	-	-	14.62
C3A + C3S	%	-	-	-	-	53.33
C4AF + 2C3A	%	-	Max 25.0	Max 25.0	-	22.78
Alkalies (Na2O + 0.658 K2O)	%	-	-	-	-	0.59

PHYSICAL TESTS

Property	Unit	Symbol	ISIRI 389	ASTM C150	EN 197-1	Value
Fineness		-				
Blaine Test	Cm2/gr	-	Min 2800	Min 2800	-	3350
Residue On Sieve 45 μ	%	-	-	-	-	7.8
Residue On Sieve 90 μ	%	-	-	-	-	1.1
Water for Normal Consistency	%	-	-	-	-	
Weight Liter	gr/l	-	-	-	-	
Setting Time - Vicat Test		-	-	-	-	
Initial	Minute	-	Min 45	Min 45	-	175
Final	Hour	-	Max 6	Max 6	-	03:40
Compressive Strength						
2 days	kgr/cm3	-	-	-	-	
3 days	" "	-	Min 85	Min 85	-	195
7 days	" "	-	Min 150	Min 150	-	314
28 days	" "	-	Min 270	Min 270	-	486
Autoclave Expansion	%	-	Max 0.8	Max 0.8	-	0.04

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