

***Chemical Composition and Physical Properties of Limestone cement***  
**[CEM II/B-L 32.5 N]**

NO	DESCRIPTION (EN 197-1 CEM II/B-L 32.5N)	UNIT	VALUE	RANGE	
<b>CHEMICAL COMPOSITION</b>					
1	Silicon Dioxide	SiO <sub>2</sub>	%	15.45	12.5-16.0
2	Aluminum Oxide	AL <sub>2</sub> O <sub>3</sub>	%	4.42	4.3-5.0
3	Ferric Oxide	Fe <sub>2</sub> O <sub>3</sub>	%	3.11	3.0-4
4	Calcium Oxide	CaO	%	61.76	60.5-64
5	Magnesium Oxide (Max 5.0)	MgO	%	0.90	0.6-2.0
6	Sulfur Trioxide (Max 3.5)	SO <sub>3</sub> <3.5	%	2.15	2.0-3.0
7	Chloride < 0.10	Cl <sup>-</sup> <0.1	%	0.04	0.02-0.08
8	Insoluble residue (Max 5.0)	IR< 5	%	0.55	0.3-2.5
9	Loss On ignition		%	12.22	10.0-14.5
10	Free-Lime < 2	F-CaO< 2	%	1.1	0.8-1.8
11	Chromium Hexavalent (Max 2.0)	Cr VI< 2	ppm	0.8	0.7 - 1.8
12	Alkali Equivalent	Na <sub>2</sub> O equivalent	%	0.65	0.50 - 0.75
13	Sieve 45		%	12	9.0-14.0
14	Sieve 90		%	0.2	0.00- 0.8
<b>PHYSICS TEST</b>					
1	Fineness (Blaine)		Cm <sup>2</sup> /g	4275	4100-4800
2	Water consistency		%	25.2	24.5-27.0
3	Initial setting time	Min 75	Minutes	117	110- 170
4	Final setting time		Minutes	177	160-200
5	7Day (Compressive Strength)	Min 16	MPa	28.1	16-30
6	28Day (Compressive Strength))	32.5-52.5	MPa	38.9	34.0-45.0
7	Soundness	Max 10mm	mm	1	0.6 – 4.0