



Duraton CEMENT

India's Most Advanced Cement

Vill. Rajgarh, Near Shambu Barrier, Rajpura, Punjab 140417

Despatched during Week No.	45	From	05/11/2018	To	11/11/2018
Test Certificate No./ Dated	36/ 21st Nov. 2018	Reference No.	AFCL/P&QC/TC/18/0036		
S.N.	Parameters	Results Obtained	Requirement as per IS 1489 (Part I):2015		
1	Chemical Composition (% by mass)				
	Loss on Ignition	2.60	Not More than 5.0		
	Magnesia (MgO)	1.48	Not More than 6.0		
	Sulphuric Anhydride (SO ₃)	2.58	Not More than 3.5		
	Chloride Content	0.01	Not More than 0.1 (for general purpose) & not more than 0.05 for pre-stressed structures		
1	Insoluble Residue	26.6	Max. Insoluble Residue Not More than $[X + 4.0 (100-X) / 100]$,		
			Min. Insoluble Residue Not less than $(0.6 X)$,		
			Where "X" is the declared Pozzolana content in cement.		
Physical Analysis					
2	Fineness (m²/kg)				
	Blaine's Specific Surface Area	420	Not Less than 300		
3	Compressive Strength (MPa)				
	72 ± 1h (3 Days)	27.2	Not less than 16.0		
	168 ± 2h (7 Days)	36.1	Not less than 22.0		
	672 ± 4h (28 Days)*	53.1	Not less than 33.0		
4	Setting Time (Minutes)				
	Initial	150	Not less than 30		
	Final	200	Not more than 600		
5	Soundness				
	Le-Chatelier Expansion (mm)	1.0	Not more than 10.0		
	Auto-Clave Expansion (%)	0.23	Not more than 0.8		
6	Drying Shrinkage (%)*	0.019	Not More than 0.15		
7	Normal Consistency (%)				
	Temp. During Testing (°C)	27.0	$(27 \pm 2)^{\circ}C$		

* Declared Pozzolana (Fly-Ash) Content in Cement is (%)	28.0
* Compressive Strength (in MPa) of 28 Days & Drying Shrinkage (in %) values are of Week No	42 & 41 respectively

The above cement complies with the requirements of IS 1489 (Part I): 2015 for Portland Pozzolana Cement.

K.S. Birdi

P&QC Manager

Plant Head