



# Duraton CEMENT

India's Most Advanced Cement

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

<b>Despatched during Week No.</b>	<b>49</b>	<b>From</b>	<b>03/12/2018</b>	<b>To</b>	<b>09/12/2018</b>
<b>Test Certificate No./ Dated</b>	<b>40/ 20<sup>th</sup> Dec. 2018</b>	<b>Reference No.</b>	<b>AFCL/P&amp;QC/TC/18/0040</b>		
S.N.	Parameters	Results Obtained	Requirement as per IS 1489 (Part I):2015		
1	<b>Chemical Composition (% by mass)</b>				
	Loss on Ignition	2.75	Not More than 5.0		
	Magnesia (MgO)	1.75	Not More than 6.0		
	Sulphuric Anhydride (SO <sub>3</sub> )	2.48	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	27.7	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.		
<b>Physical Analysis</b>					
2	<b>Fineness (m<sup>2</sup>/kg)</b>				
	Blaine's Specific Surface Area	420	Not Less than 300		
3	<b>Compressive Strength (MPa)</b>				
	72 ± 1h (3 Days)	26.8	Not less than 16.0		
	168 ± 2h (7 Days)	34.6	Not less than 22.0		
	672 ± 4h (28 Days)*	52.0	Not less than 33.0		
4	<b>Setting Time (Minutes)</b>				
	Initial	150	Not less than 30		
	Final	210	Not more than 600		
5	<b>Soundness</b>				
	Le-Chatelier Expansion (mm)	1.0	Not more than 10.0		
	Auto-Clave Expansion (%)	0.20	Not more than 0.8		
6	Drying Shrinkage (%)*	0.018	Not More than 0.15		
7	<b>Normal Consistency (%)</b>				
	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	46 & 45 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**