

**Laboratory**                      **Quality Control Laboratory, Ultra Tech Cement Ltd., Unit: Aditya Cement Works, PO: Adityapuram, Sawa-Sambhupura, Adityapuram, Chittorgarh, Rajasthan**

**Accreditation Standard**    **ISO/IEC 17025: 2005**

**Certificate Number**        **TC-5117 (in lieu of T-2420, T-2421)**

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**Validity**                        **10.01.2017 to 09.01.2019**

**Last Amended on --**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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**CHEMICAL TESTING**

I.	BUILDING MATERIALS			
<b>1.</b>	<b>Cement (OPC)</b>	SiO <sub>2</sub> ( Silica)	IS 4032: 1985 (RA 2014)	15.0 % to 25.0 %
		Al <sub>2</sub> O <sub>3</sub> (Alumina)	IS 4032: 1985 (RA 2014)	1.0 % to 8.0 %
		Fe <sub>2</sub> O <sub>3</sub> (Iron Oxide)	IS 4032: 1985 (RA 2014)	1.0 % to 10.0 %
		CaO (Calcium Oxide)	IS 4032: 1985 (RA 2014)	50.0 % to 70.0 %
		MgO (Magnesia )	IS 4032: 1985 (RA 2014)	0.5 % to 10.0 %
		LOI (Loss on Ignition)	IS 4032: 1985 (RA 2014)	0.1 % to 10.0 %
		IR (Insoluble Residue)	IS 4032: 1985 (RA 2014)	0.15 % to 8.0 %
		SO <sub>3</sub> (Sulfuric Anhydride)	IS 4032: 1985 (RA 2014)	0.20 % to 5.0 %
		Chloride	IS 4032: 1985 (RA 2014)	0.005 % to 0.5 %
		<b>2.</b>	<b>Cement (PPC)</b>	MgO (Magnesia)
LOI (Loss on Ignition)	IS 4032: 1985 (RA 2014)			0.1 % to 10.0 %
IR (Insoluble Residue)	IS 4032: 1985 (RA 2014)			12.0 % to 38.0 %
SO <sub>3</sub> (Sulfuric Anhydride)	IS 4032: 1985 (RA 2014)			0.20 % to 5.0 %
Chloride	IS 4032: 1985 (RA 2014)			0.005 % to 0.5 %

**Rahul Jain**  
Convenor

**N. Venkateswaran**  
Program Director

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**MECHANICAL TESTING**

I.	BUILDING MATERIALS			
1.	<b>Cement [OPC/ PPC (Fly Ash based)]</b>	Specific Surface area	IS 4031 (Part 2): 1988 (RA 2008)	150 m <sup>2</sup> /kg to 600 m <sup>2</sup> /kg
		Normal Consistency	IS 4031 (Part 4): 1988 (RA 2009)	20.0 % to 40.0 %
		<b>Setting Time</b>		
		Initial Setting Time	IS 4031 (Part 5): 1988 (RA 2009)	(30 to 300) minutes
		Final Setting Time	IS 4031 (Part 5): 1988 (RA 2009)	(120 to 600) minutes
		<b>Soundness</b>		
		Le-Chatelier expansion	IS 4031 (Part 3): 1988 (RA 2014)	0.5 mm to 10 mm
		Autoclave Expansion	IS 4031 (Part 2): 1988 (RA 2009)	0.015 % to 1.00 %
		Compressive Strength	IS 4031 (Part 6): 1988 (RA 2009)	5 MPa to 75 MPa
		Drying Shrinkage	IS 4031 (Part 10): 1988 (RA 2009)	0.01 % to 0.25%

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