JK LAKSHMI         CEMENT LTD.         LAYKAYPURAM-307019 Dist. Sirohi. , Rajasthan         TEST CERTIFICATE FOR JK LAKSHMI 53 – GRADE OPC         LICENCE NO . CM/L-2361143       CT-5708         WEEK No 34       ULR NO. TC-570818000000002F       DATE OF ISSUE 24.09.2018         CHEMICAL / PHYSICAL       SPECIFICATION       REQUIREMENT AS PER       RESULTS         CLAUSE No.       IS No. 269 – 2015       OBTAINED			
	CLITCHE IV.	AMENDMENT No. 6	
<ul> <li>CHEMICAL REQUIREMENTS :</li> <li>(i) Ratio of Percentage of Lime to percentage of silica, alumina and iron oxide CaO - 0.7SO<sub>3</sub></li> </ul>	<b>5</b> 5.1	Not Greater than 1.02 And not less than 0.80	0.910
$2.8 \; SiO_2 + 1.2 \; Al_2O_3 + 0.65 \; Fe_2O_3$			
(ii) Ratio of percentage of alumina to that of iron oxide	5.1	Not less than 0.66	1.43
(iii) Insoluble residue, percent by mass	5.1	Not more than 5.0	2.80
(iv) Magnesia, percent by mass	5.1	Not more than 6.0	2.43
v) Total sulphur calculated as Sulphuric Anhydride (SO <sub>3</sub> ), Percent by mass	5.1	Not more than 3.5	3.11
(vi) Total loss on ignition	5.1	Not more than 5%	2.08
(vii) Chloride, percent by mass	5.1	Not more than 0.1	0.021
PHYSICAL REQUIREMENTS : NC	6	%	27.75
(i) FINENESS : SP. SURFACE	6.1	Not less than 225 m2/kg	359
<ul><li>(ii) SOUNDNESS :</li><li>a) Le-chatelier method Expansion</li></ul>	6.2	Not more than 10 mm	1.00
b) Auto clave test expansion		Not more than 0.8%	0.075
<ul><li>(iii) SETTING TIME</li><li>a) Initial Setting time in Minutes</li></ul>	6.3	Not less than 30	130
b) Final setting time in Minutes		Not more than 600	165
(iv) COMPRESIVE STRENGTH 72 ± 1 Hours (3 Days)	6.4	Not less than 27 MPa	42.8
$168 \pm 2$ Hours (7 Days)		Not less than 37 MPa	50.0
672 ± 4 Hours (28 Days)		Not less than 53 MPa	60.0

**REMARKS** : The test results complies with the requirements of IS:269 – 2015 for 53 grade OPC for all Chemical Requirements and Physical requirements including Compressive Strength Up to 28- days. Test Protocol : IS:4032 and IS:4031.

Note : Results reported above are the average test results of all samples testing during relevant week.

CERTIFIED ISO 9001:2008 ISO 14001:2004 OHSAS 18001:2007

HOD (QC)

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