JK LAKSHMI CEMENT LTD.         JAYKAYPURAM-307019 Dist. Sirohi., Rajasthan TEST CERTIFICATE FOR JK LAKSHMI 43 – GRADE OPC         LICENCE NO. CM/L-2361143       CT5708         WEEK No       31       DATE OF ISSUE       13.08.2018			
CHEMICAL / PHYSICAL REQUIREMENTS	SPECIFICATION CLAUSE No.	REQUIREMENT AS PER IS No. 269 – 2015 AMENDMENT No. 6	RESULTS OBTAINED
<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 0.66	0.922
<ul> <li>2.8 SiO<sub>2</sub> + 1.2 Al<sub>2</sub>O<sub>3</sub> + 0.65 Fe<sub>2</sub>O<sub>3</sub></li> <li>(ii) Ratio of percentage of alumina to that of iron oxide</li> </ul>	5.1	Not less than 0.66	1.40
(iii) Insoluble residue, percent by mass	5.1	Not more than 5.0	1.70
(iv) Magnesia, percent by mass	5.1	Not more than 6.0	2.48
<ul> <li>v) Total sulphur calculated as Sulphuric Anhydride (SO<sub>3</sub>), Percent by mass</li> </ul>	5.1	Not more than 3.5	2.59
(vi) Total loss on ignition	5.1	Not more than 5%	1.95
(vii) Chloride, percent by mass	5.1	Not more than 0.1	0.022
PHYSICAL REQUIREMENTS : NC (i) FINENESS : SP. SURFACE	<b>6</b> 6.1	% Not less than 225 m2/kg	<b>27.5</b> 280
<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%	0.065
<ul><li>(iii) SETTING TIME</li><li>a) Initial Setting time in Minutes</li></ul>	6.3	Not less than 30	140
b) Final setting time in Minutes		Not more than 600	175
(iv) COMPRESIVE STRENGTH 72 ± 1 Hours (3 Days)	6.4	Not less than 23 MPa	33.0
168 ± 2 Hours (7 Days)		Not less than 33 MPa	40.0
672 ± 4 Hours (28 Days) <b>REMARKS :</b> The test results complies with the		Not less than 43 MPa * Not more than 58 MPa	Under Testing

**REMARKS :** The test results complies with the requirements of IS:269 – 2015 for 43 grade OPC for all Chemical Requirements and Physical requirements including Compressive Strength Up to 7- 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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