

**HEIDELBERGCEMENT****mycem**

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**DIAMOND CEMENTS,(Prop. HEIDELBERGCEMENT INDIA LTD)****MADORA,JHANSI UNIT****TEST REPORT FOR MYCEM**

Portland Pozzolana Cement as per IS1489 (Part I):1991

REF.: DC/JHN/QA/2016/33

DATE-25.09.2016

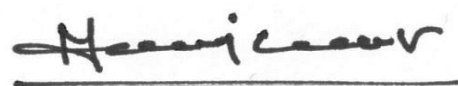
WEEK NO. : 33

(12.08.16-18.08.16)

| CHARACTERISTIC   | RESULTS OBTAINED | REQUIREMENT OF IS1489 (Part 1):1991  |
|--|------------------|--|
| <b>(A) CHEMICAL COMPOSITION</b>                        |                  |  |
| (i) Loss on Ignition % by mass                         | 2.18             | 5.0, Max.  |
| (ii) Magnesia (MgO), % by mass                         | 2.59             | 6.0, Max.  |
| (iii) Sulphuric Anhydride (SO <sub>3</sub> ) % by mass | 2.09             | 3.0, Max.  |
| (iv) Total Chloride (Cl), % by mass                    | 0.010            | 0.1, Max.  |
| (v) Insoluble Material, % by mass                      | 33.38            | $X + 4.0 \times (100 - X) / 100$<br>Where $X$ is the declared % of Fly Ash in the PPC sample |
| <b>(B) PHYSICAL TESTING</b>                            |                  |  |
| <b>1. Fineness of Cement</b>                           |                  |  |
| Sp.Surface blaine (m <sup>2</sup> /kg)                 | 354              | 300 m <sup>2</sup> /kg minimum   |
| <b>2. Soundness</b>                                    |                  |  |
| Le-Chatelier Expansion (mm)                            | 1.00             | 10 mm, Max.  |
| Autoclave Expansion (%)                                | 0.085            | 0.8 %, Max.  |
| <b>3. Setting Time</b>                                 |                  |  |
| Initial (in Minutes)                                   | 175              | 30 minutes, Min.   |
| Final (in Minutes)                                     | 220              | 600 minutes, Max.  |
| <b>4. Compressive Strength (MPa)</b>                   |                  |  |
| (a) At 72 ± 1 Hrs.                                     | 22               | 16 MPa, Min.   |
| (b) At 168 ± 2 Hrs.                                    | 32               | 22 MPa, Min.   |
| (c) At 672 ± 4 Hrs.                                    | 45               | 33 MPa, Min.   |
| <b>5. Drying Shrinkage (%)</b>                         | 0.036            | 0.15 %, Max.   |
| <b>6. Declared % of Fly Ash in PPC</b>                 | 34.97            | 15 - 35 %  |

**Remarks :**

- Temperature during testing -  $27 \pm 2^\circ$  c.
- The amount of Fly Ash in the finished cement is not varying more than  $\pm 3\%$  from the declared value.
- Portland Pozzolana Cement conforms to the requirement of IS 1489 (Part 1):1991 in all respects.



Head of Quality Control - Jhansi