



WORK TEST CERTIFICATE

53 Grade Ordinary Portland Cement

| Despatched during Week No. | 13 | From | 26-Mar-2022 | To | 1-Apr-2022 |
|-----------------------------|--|------------------|--|------------------|------------|
| Test Certificate No. | 13 | Reference No. | | WCW/IMS/QA/FM/17 | |
| Dated | 30-Apr-2022 | | | | |
| S.N. | Parameters | Results Obtained | Requirement as per IS 269 : 2015 (Variety: OPC 53) | | |
| Chemical Composition | | | | | |
| 1 | Lime Saturation Factor (CaO – 0.7 *SO3) / (2.8* SiO2 + 1.2* Al2O3 + 0.65* Fe2O3) | 0.91 | Not greater than 1.02 and not less than 0.80 | | |
| | Ratio of % Alumina to that of Iron Oxide Al2O3 / Fe2O3 | 1.25 | Not less than 0.66 | | |
| | Insoluble Residue (% by mass) | 0.91 | Not more than 5.0 % | | |
| | Magnesia (% by mass) | 0.90 | Not more than 6.0 % | | |
| | Sulphuric Anhydride (% by mass) | 2.95 | Not More than 3.5 % | | |
| | Total loss on Ignition (%) | 1.93 | Not More than 4.0 % | | |
| | Chloride Content (%) | 0.010 | Not more than 0.1 % for general purpose & not more than 0.05 % for pre-stressed structures | | |
| Physical Analysis | | | | | |
| 2 | Fineness | | | | |
| | Blaine's Specific Surface Area (m2 / kg) | 308 | Not Less than 225 | | |
| 3 | Compressive Strength (MPa) | | | | |
| | 72 ± 1h (3 Days) | 36.5 | Not less than 27.0 | | |
| | 168 ± 2h (7 Days) | 46.6 | Not less than 37.0 | | |
| | 672 ± 4h (28 Days) * | 59.5 | Not less than 53.0 | | |
| 4 | Setting Time (Minutes) | | | | |
| | Initial | 120 | Not less than 30 | | |
| | Final | 175 | Not more than 600 | | |
| 5 | Soundness | | | | |
| | Le-Chatelier Expansion (mm) | 2.00 | Not more than 10.0 | | |
| | Auto-Clave Expansion (%) | 0.060 | Not more than 0.8 | | |
| 6 | Normal Consistency (%) | | | | |
| | Temp. During Testing (0C) | 27.75 | (27 ± 2)0C | | |

The above cement complies with the requirements of IS 269 : 2015 (Variety: OPC 53) for 53 Grade Ordinary Portland Cement

Manager (QA)

DGM QC