

## Quality Certificate

**SPECIFICATION :** PORTLAND CEMENT CLINKER

**PRODUCT DATE :**

**Chemical Composition :**

Silicon Dioxide	%SiO <sub>2</sub>	21.60	Chloride	%Cl	0.018
Aluminium Oxide	%Al <sub>2</sub> O <sub>3</sub>	4.91	Free Lime	% Free CaO	0.60
Ferric Oxide	%Fe <sub>2</sub> O <sub>3</sub>	3.95	Lime Saturation Factor (LSF)		94.5
Calcium Oxide	%CaO	65.04	Silica Module (SiM)		2.44
Magnesium Oxide	%MgO	1.90	Alumina Module (AIM)		1.24
Sulfur Trioxide	%SO <sub>3</sub>	1.14	Tricalcium Silicate	% C <sub>3</sub> S	58.74
Potassium Oxide	%K <sub>2</sub> O	0.52	Dicalcium Silicate	% C <sub>2</sub> S	17.62
Sodium Oxide	%Na <sub>2</sub> O	0.50	Tricalcium Aluminate	% C <sub>3</sub> A	6.33
Loss on Ignition	%L.O.I	0.47	Tetracalcium Alumino Ferrit	%C <sub>4</sub> AF	12.02

Remarks:

$$LSF = 100 * CaO / (2.8 * SiO_2 + 1.18 * Al_2O_3 + 0.65 * Fe_2O_3)$$

$$C_3S = 4.071 * CaO - 7.6 * SiO_2 - 6.718 * Al_2O_3 - 1.43 * Fe_2O_3 - 2.852 * SO_3$$