PORTLAND CEMENT CLINKER Ref #20
TYPICAL PROPERTIES

2021 Contractual Limits		Ordinary Portland Cement Clinker			
Chemical Composition					
		Average	**Min**	**Max**	
Silicon Dioxide	**SiO_2**	21.21	20.59	21.70	%
Aluminum Trioxide	**Al_2O_3**	4.76	4.53	4.96	%
Ferric Oxide	**Fe_2O_3**	3.83	3.58	4.08	%
Calcium Oxide	**CaO**	64.12	63.52	65.00	%
Magnesium Oxide	**MgO**	4.40	4.00	4.90	%
Sulphate	**SO_3**	0.86	0.61	1.06	%
Potassium Oxide	**K_2O**	0.21	0.12	0.32	%
Sodium Oxide	**Na_2O**	0.22	0.10	0.38	%
Loss On Ignition	**LOI**	0.30	0.20	0.40	%
Alkalis Equivalent	**AE**	0.35	0.20	0.53	%
Mineralogy					
Tricalcium Silicate	**C_3S**	58.01	56.00	61.00	
Dicalcium Silicate	**C_2S**	17.13	13.74	18.99	
Tricalcium Aluminates	**C_3A**	6.16	5.50	6.70	
Tetracalcium Aluminoferrate	**C_4AF**	11.63	10.88	12.40	
Burnability					
Free Lime	**F.CaO**	1.06	0.60	1.75	%
Litre weight	**L.Wt**	1190	1044	1340	g/L
The above mentioned results based on average					

C3S=4.07 (CaO -F.CaO) - 7.6 SiO2 - 6.718 Al2O3 - 1.43 Fe2O3

C3A=2.65 Al2O3 - 1.692 Fe2O3

C2S=2.867 SiO2 - 0.754 C3S

C4AF=3.04 Fe2O3

AE=Na2O+0.658K2O