

Analysis of clinker type I & II

Type I			Type II		
Chemical Analysis (EN196-2)			Chemical Analysis (EN196-2)		
Item	%		Item	%	
SiO2	> 20.00		SiO2	> 21.00	
Al2O3	> 5.30		Al2O3	< 5.30	
Fe2O3	> 3.50		Fe2O3	> 4.00	
CaO	> 65.00		CaO	> 64.00	
MgO	< 2.20	Max: 5	MgO	< 2.20	Max: 5
SO3	≤ 1.00		SO3	≤ 1.00	
K2O	<1.00		K2O	< 1.00	
Na2O	< 0.20		Na2O	< 0.20	
Cl	<0.01		Cl	< 0.01	
L.O.I	< 0 .50	Max: 1	L.O.I	< 0 .50	Max: 1
Phase Analysis (EN196-2)			Phase Analysis (EN196-2)		
C3S	> 57		C3S	≥ 52	
C2S	< 20		C2S	≤ 20	
C3A	≥ 8		C3A	< 8	
C4AF	< 12		C4AF	< 15	
Free CaO	< 1.5	Max: 2.0	Free CaO	< 1.2	Max: 2.0
Total Alkali	< 0.90		Total Alkali	< 0.90	
I.R	< 0.50	Max: 0.75	I.R	< 0.50	Max: 0.75
L.S.F	≥ 95		L.S.F	< 0.50	
S.I.M	<2.4		S.I.M	≤ 2.4	
A.L.M	<1.70		A.L.M	≤ 1.30	

Physical Specifications (ASTM E11)	
Particle Size	%
Greater than 25 mm	<10
Between 10mm and 25mm	>40
Between 5mm and 10mm	>20
Between 1mm and 5mm	>20
Smaller than 1mm	<10

Analysis of cemen type I&II

Type I			Type II		
Chemical Analysis (EN197&EN196-2)			Chemical Analysis (EN197&EN196-2)		
Item	%		Item	%	
SiO2	≥ 19		SiO2	≥ 20	
Al2O3	> 5.3		Al2O3	< 5.3	
Fe2O3	> 3.5		Fe2O3	> 4.00	
CaO	≥ 63.00		CaO	< 63.00	
MgO	< 2.2	Max: 5	MgO	< 2.2	Max: 5
SO3	< 3.00	Max: 3.5	SO3	< 3.00	Max: 3.0
K2O	< 0.95		K2O	< 0.95	
Na2O	< 0.20		Na2O	< 0.20	
L.O.I	< 2.00	Max: 3	L.O.I	≥ 20	Max: 3
Phase Analysis (EN197&EN196-2)			Phase Analysis (EN197&EN196-2)		
C3S	> 53		C3S	> 50	
C2S	< 20		C2S	< 20	
C3A	≥ 8		C3A	< 8	
C4AF	< 12		C4AF	< 15	
C3A+C3S	> 60		C3A+C3S	< 58	
2C3A+C4AF	> 28		2C3A+C4AF	< 28	
I.R.	< 0.5	Max: 0.75	I.R.	< 0.5	Max: 0.75
Free CaO	< 1.5	Max: 2.00	Free CaO	< 1.5	Max: 2.00
Total Alkali	< 0.9		Total Alkali	< 0.9	

Physical Specifications (EN196-1,EN196-3,EN196-6, EN451-1)										
Item	Type I					Type II				
	Item Value		Compressive strength(kg/cm)			Item Value		Compressive strength(kg/cm)		
Fineness (cm2/gr)	<3100	Min: 2800	2days	>220	Min:100	< 3100	Min: 2800	3 days	> 240	Min: 100
(%) Retain Sieve #70	<0.1		7days	>340		< 0.1		7 days	> 340	Min: 175
(%) Retain Sieve #170	<0.5		28days	>460	Min:425	< 0.5		28 days	> 450	Min: 315
Initial Set (Minute)	<240	Min: 45				< 240	Min: 45			
Final Set (Minute)	<300	Max: 360				< 300	Max: 360			
(%) Autoclave Expansion	<0.1	Max: 0.8				< 0.1	Max: 0.8			
(%) Norm. Consistency	<25					<25				
Specific Gravity (g/cm3)	<3.2					<3.2				