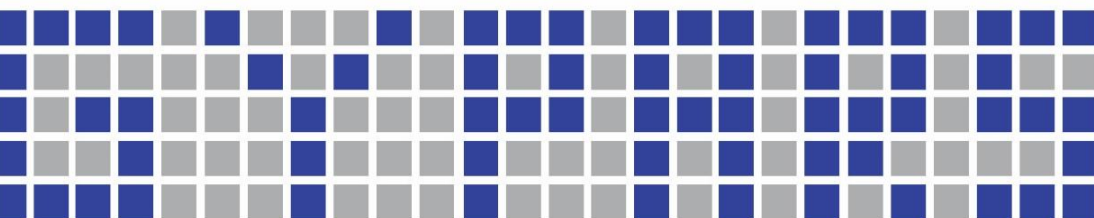


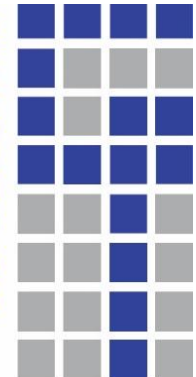
Portland Cement

Type 1

Chemical Composition

		MIN		MAX				MIN		MAX	
		MIN		MAX				MIN		MAX	
Silicon Dioxide	SiO ₂	20.00	22.00	Insoluble Residue	I.R.	0.10	0.70				
Aluminium Oxide	Al ₂ O ₃	4.60	5.40	Free Lime	Free CaO	0.70	1.40				
Ferric Oxide	Fe ₂ O ₃	3.50	4.00	Lime Saturation Factor	LSF	0.92	0.97				
Calcium Oxide	CaO	63.00	65.00	Silica Module	SiM	2.40	2.60				
Magnesium Oxide	MgO	1.50	2.50	Alomina Module	AlM	1.20	1.50				
Sulphur Trioxide	SO ₃	1.50	2.50	Tricalcium Silicate	C ₃ S	50.00	60.00				
Potassium Oxide	K ₂ O	0.50	0.70	Dicalcium Silicate	C ₂ S	15.00	25.00				
Sodium Oxide	Na ₂ O	0.30	0.50	Tricalcium Aluminate	C ₃ A	5.00	9.00				
Loss on Ignition	L.O.I	0.60	0.100	Tetracalcium Alumino Ferrite	C ₄ AF	10.00	12.00				





Portland Cement

Type 1

Physical Properties

			MIN	MAX
Fineness	Blaine test	(cm ² /g)	3000	3300
Expansion	Autoclave	(%)	0.05	0.16
Setting time	Initial	(minute)	120	160
	Final	(minute)	170	310
Compressive Strength	After 2 days	(kg/cm ²)	200	250
	After 3 days	(kg/cm ²)	250	300
	After 7 days	(kg/cm ²)	300	350
	After 28 days	(kg/cm ²)	425	500

$LSF = 100 \times CaO / [(2.8 \times SiO_2) + (1.18 \times Al_2O_3) + (0.65 \times Fe_2O_3)]$
 $C_3S = (4.071 \times CaO) - (7.6 \times SiO_2) - (6.718 \times Al_2O_3) - (1.43 \times Fe_2O_3) - (2.852 \times SO_3)$
 $C_2S = (2.867 \times SiO_2) - (0.754 \times C_3S)$
 $C_3A = (2.65 \times Al_2O_3) - (1.692 \times Fe_2O_3)$
 $C_4AF = 3.043 \times Fe_2O_3$

Tel: +98-21-88507402
 Fax: +98-21-88522845
 Mob: +98-9125302560
 No.28, 7 Floor, Bldg. No.69,
 Shahid Ghandi (west) St.
 North Sohrevardi, Tehran, Iran.

