



Chemical Analysis

Raw Materials (for Tile & Ceramic)

CODE	ASI-10	ASI-20	ASF-10	ASB-10	ASK	
Type	Illitic Clay		Feldspar	Bentonite	Kaolin	
SiO ₂	69 -71	66 - 68	70 - 72	66 - 70	73 - 75	
Al ₂ O ₃	13 -14	13.5 -14.0	14 - 15	11.5 - 12.5	14.5 - 15.5	
Fe ₂ O ₃	2.1 - 2.3	2.4 - 2.6	0.9 - 1.1	1.2 - 1.4	1.3 - 1.5	
TiO ₂	0.28 - 0.32	0.35 - 0.4	0.21 - 0.25	0.13 – 0.17	0.25 – 0.35	
Na ₂ O	12 - 16	1.1 - 1.3	4.5 - 5.5	0.8 - 1.2	0.2 - 0.3	
K ₂ O	3.6 - 4	3.7 - 4.1	1.5 - 1.7	0.2 - 0.6	1.3 - 1.5	
CaO	2.1 - 2.5	3.6 - 4.0	0.5 - 0.7	4.7 - 5.3	0.4 - 0.6	
MgO	0.9 - 1.3	0.9 - 1.1	2.0 - 2.4	2 - 2.6	0.4 - 0.6	
L.O.I	5 - 6	6.7 - 7.3	2.2 - 2.5	8 - 10	4.7 - 5.0	
Physical & Thermal Properties at	1160°C/ 60'		1175°C/ 60'			
Strength(kg/cm)	Green	9 -13	8-10	5-7	12-14	3 - 5
	Dried	36 - 40	38-42	18-22	33-37	9 - 11
	Fired	> 550	> 700	> 600	> 100	> 100
Fired Shrinkage	7-9	10-12	9-11	4-6	<0.2	
% Water Absorption	< 0.5	< 0.1	< 0.1	8-12	16 - 20	
Coefficient of thermal Expansion at 500°C ($\alpha \times 10^{-7} \text{ }^\circ\text{C}^{-1}$)	95.17	77.510	90.671	89.635	69.336	
Color	L= 47 ± 2 a = 10 ± 1 b = 15 ± 2	L= 40 ± 2 a = 11 ± 1 b = 12 ± 1	L= 57 ± 2 a = 4 ± 0.5 b = 12 ± 1	L= 70 ± 2 a = 3 ± 0.5 b = 17 ± 1	L= 84 ± 2 a = 4 ± 0.5 b = 6 ± 1	
Application	Wall, Floor Porcelain tiles	Wall, Floor Porcelain tiles	Floor , Porcelain tiles, Ceramics	Tiles, Ceramic	Wall , Floor tiles	
Sizing	<15 mm	< 25 cm <15 mm	<10 mm	<200 mm	<200 mm <10 mm	
Packing	Big bag -bulk	Big bag - bulk	Big bag -bulk	Bulk	Bulk	
Delivery Place	Qazvin-Boein Zahra					

Updated: 2021.01.20

*Samples are tested under company laboratory condition. Values are liable to natural deviations and are not to be cited as guaranteed properties or guaranteed values.

دارنده گواهی نامه : ISO/IEC 17025: 2017