



**Suravajin Aghigh**

Mining & Industrial Co.

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### Raw Material for Refractories

Code	Plastic Clay Grade-2	ARB-10	ARB-30	ARB-80	ARB-100	ARF-20-1	ARF-20-2	Bauxite-50	Bauxite-55	Bauxite-60
	Ball Clay	Ball Clay	Ball Clay	Ball Clay	Ball Clay	Fire Clay	Fire Clay			

#### Chemical Analysis

SiO <sub>2</sub>	54 -55	46 ± 1	38 ± 1	51 ± 1	42	33.5 ± 1	38.5 ± 1	30 ± 1.5	23 ± 1.5	18 ± 2
Al <sub>2</sub> O <sub>3</sub>	>24	27 ± 1	26 ± 1	28 ± 1	33 ± 1	45 ± 1.5	40 ± 1.5	50 ± 1.5	55 ± 1.5	60 ± 2
Fe <sub>2</sub> O <sub>3</sub>	<2	<1.5	1.5	<2	<2	<2.2	<2.5	<2	<2	<2
TiO <sub>2</sub>	1.5	<1.5	1	1.5	1.5	5 - 5.5	5-5.5	5-6	5-6	5-6
CaO	0.4	<0.5	0.5	<0.4	<0.4	<0.5	<0.5	<0.5	<0.5	<0.5
MgO	---	---	---	---	---	<0.5	<0.5	<0.5	<0.5	----
K <sub>2</sub> O+Na <sub>2</sub> O	2	<2	2.5	<2	<1	<1	<1	<1	<1	<1
L.O.I	14 -15	19 - 21	<30	13 ± 1	16	12 - 13	12 - 13	12 - 13	12 - 13	12 - 13

Type	Refractory plastic Clay					Refractory hard Clay		Refractory- grade Bauxite		
Refractoriness (Seeger Cone)	+29	+28	---	30	+31	+32	+32	+34	+34	+34
Application	Refractory Binder	Refractory Industries	Insulate refractory bricks	Refractory Binder	Refractory Binder	Chamotte bricks	Chamotte bricks	Refractory bricks	Refractory bricks	Refractory bricks
Mine Location	Tabas -Robot khan									
Sizing	0 - 30 mm Powder		0 - 25 cm 0 - 30 mm Powder	0-30 mm Powder			0-25 cm 0-30 mm			

Plastic clays prepare in 0-30 /0-10 mm /micronized size and <140 / <230 mesh conditions

Bauxite and fire clays quality are prepared according to application

Samples are tested in Suravajin Aghigh laboratory

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### Raw Material for Tile & Ceramic

Code	ASI – 10	ASI - 20	ARK-50-V	ASF -10
	Illitic Clay	Illitic Clay	Ball Clay	Feldspar
<b>Chemical Analyses</b>				
SiO <sub>2</sub>	68 ± 2	67 ± 2	69	69 ± 1
Al <sub>2</sub> O <sub>3</sub>	12.5 ± 1	13 ± 0.5	16 - 18	16 ± 1
Fe <sub>2</sub> O <sub>3</sub>	1.9 - 2	<2.2	<0.8	1± 0.1
TiO <sub>2</sub>	0.3	0.4	<1.5	<0.5
CaO	2.8 - 3	3	<0.5	<1
MgO	0.9 - 1.1	0.8	<0.5	2±0.5
K <sub>2</sub> O	3 - 3.4	3.2 - 3.8	2.5	2-2.5
Na <sub>2</sub> O	1 - 1.3	1 - 1.3	0.8 - 1	4.5-5
L.O.I	5 - 6	6 ± 0.5	5 - 6	2-3
Green Strength(Kg/cm <sup>2</sup> )	9 -11	10 - 11	8	----
Dry Strength(Kg/cm <sup>2</sup> )	35 - 40	40 - 45	25 - 30	----
<b>Firing at 1125°C/46 min</b>			<b>Firing at 1200°C/55 min</b>	
% Firing shrinkage	1 – 1.2	1.2 -1.4	5.5	----
% Water absorption	12 – 13	11 - 13	6	----
Firing strength (Kg/cm <sup>2</sup> )	>200	>200	>450	----
Mine location	<b>Qazvin/Boein Zahra area</b>			
Delivery	<b>Bulk/Big bag</b>			
Sizing	<25 cm <15 mm		0-30 mm 0-10 mm powder	<5 mm

Samples are tested in Suravajin Aghigh laboratory conditions

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### Raw Material for Sanitary Ware

Code	U 1	AC - 50	AC - 35
	Ball Clay	Ball Clay	Ball Clay
SiO <sub>2</sub>	70 ± 1	65 - 67	66 - 68
Al <sub>2</sub> O <sub>3</sub>	18 ± 1	19 - 21	19 - 21
Fe <sub>2</sub> O <sub>3</sub>	< 1	< 2	< 1.8
TiO <sub>2</sub>	< 1	< 1	< 1
CaO	< 0.5	< 0.5	< 0.5
MgO	< 0.5	< 0.5	< 0.5
K <sub>2</sub> O	1.5 - 2.5	1.5 - 2.5	1.5 - 2.5
Na <sub>2</sub> O	< 1	< 1	< 1
SO <sub>3</sub>	< 0.8	< 0.8	< 0.8
L.O.I	6 ± 1	6 ± 1	6 ± 1
Dry strength (Kg/cm <sup>2</sup> )	22 - 28	38 - 42	28 - 35
% Dry shrinkage	4. 47	4. 69	4. 84
<b>Firing at 1190°C</b>			
% Firing shrinkage	12.45	10.23	10.76
Firing strength (Kg/cm <sup>2</sup> )	459	644	780
% Water absorption	5.51	1.1	0.05
Delivery	Bulk/Big bag		
Sizing	0-30 mm 0-10 mm Powder		
Firing Color	Light cream	Dark cream	Cream

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