



MAHAVIR REFRACTORIES CORPORATION

Typical Technical Parameters

ACTIVATED ALUMINA FOR FLUORIDE REMOVAL FROM DRINKING WATER

PROPERTIES	
Shape	Granules
Grain Size, mm	0.40 – 1.0
Bulk Density, gm/cc	0.83 – 0.87
Absorption Capacity Wt% (at 60% RH and 30°C)	17 – 21
Surface Area, m ² /gm	250 – 310
Bed Crushing Strength, %	96 – 99 (using 60 mesh test sieve)
Loss on Attrition, %	0.1 – 0.5
Moisture, Wt%	0.1 – 2
Al ₂ O ₃ (by difference) Wt%	91 – 93
Na ₂ O ₃ , Wt% (max)	0.6
Fe ₂ O ₃ , Wt% (max)	0.1
SiO ₂ , Wt% (max)	0.09
Loss on Ignition (250°C -100°C)	6.5 – 7.5

The yield of treated water (Fluoride < 1.5 mg/lit) will be > 170 lit/kg of Activated Alumina per cycle when raw water having Alkalinity 420 mg/lit, pH 7.3 and Fluoride 10.8 mg/lit is passed through a bed with flow rate 9 – 12 lit/hr. Under this standard condition Fluoride uptake capacity should not be less than 1800 mg/kg of Activated Alumina.



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ACTIVATED ALUMINA

PHYSICAL PROPERTIES				
GRADE	OA - 37	OAE - 37	OA - 25	OA - 200
Form	Sphere	Extruded Rods	Spherical	Spherical
Size (mm)	3 – 5	Dia 3.5 – 4.0 Length 8 – 12	3 – 5	3/16"
Bulk Density (kg/ltr)	0.75 ± 0.05	0.50 ± 0.05	0.86	0.75 ± 0.05
Surface Area, m ² /gm (min)	05	-	-	-
Crushing Strength, kg (Av. Point Load of 20 (samples))	-	-	-	300
Water Absorption (At Equilibrium) (min) (at 60% RH and 30°C)	10.0	7.0	10.2	22.0
Loss on Attrition, by wt	10.0	-	-	-
Total Pore Volume, cc/gm (min)	20.0	20.0	16	-
	-	-	-	0.5
CHEMICAL ANALYSIS ON DRY BASIS BY WT				
Al ₂ O ₃ (min)	92.00	92.00	93.90	94.00
SiO ₂ (max)	0.05	0.05	0.15	0.02
Fe ₂ O ₃ (max)	0.20	0.20	0.05	0.02
Na ₂ O (max)	0.30	0.30	0.30	0.30
L.O.I.: (max at 1000°C)	7.00	7.00	4.62	-
Ignition Loss, Wt% (max)	-	-	-	5.00