ESTD. 1990
BALAJI CORPORATE
INTEGRITY | TRUST

312-A, ALPHA ONE COMPLEX, 150FT. RING ROAD,
NR. AMBEDKAR NAGAR CIRCLE,
Rajkot - 360 004. (Gujarat) INDIA.
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BENTONITE GRADE DETAILS

BALAJI CORPORATE Is Leading Manufacturer Of Various Bentonite Grades For **Oil Drilling, Iron Ore Pelletizing, Foundry, Fertilizer, Pilling Work, Bleaching Earth, Animal Feed, Construction and Civil Engineering, Water Proofing, Pesticides, Cat Litter, Paper, Cosmetics, Paints And Attapulgite clay.**

1. OIL DRILLING GRADES:

The most common use of bentonite is in drilling fluids. The bentonite in the flush fluid **lubricates and cools the cutting tools whilst protecting against corrosion**. As the drilling fluid generates hydrostatic pressure in the borehole, it hinders fluid and gas penetration. **As a flushing fluid, bentonite seals the drilled shaft from water ingress downwards and at the sides of the shaft**. The mineral forms a firm sludge cake on the bore wall, which provides the borehole with additional stability. The fine bentonite particles enter into the bore wall where they swell and harden.

A. API-13 A SEC-9:

NO.	PARAMETERS	SPECIFICATION
1	Moisture %	12%
2	Suspension Properties Viscometer dial reading @ 600 rpm	30 MIN.
3	Yield point/plastic viscosity ratio	3MAX.
4	Filtrate volume	15 ML MAX.
5	Residue of diameter greater than 75 micron	4% MAX.

B. API-13 A SEC-10:

NO.	PARAMETERS	SPECIFICATION
1	Yield point/plastic viscosity ratio	3MAX.
2	DISPERSED PLASTIC VISCOSITY,	10 MIN.
3	Filtrate volume	12.5 ML MAX.

C. API-13A SEC-11:

NO.	PARAMETERS	SPECIFICATION
1	Moisture %	12%
2	Suspension Properties Viscometer dial reading @ 600 rpm	30 MIN.
3	Yield point/plastic viscosity ratio	6MAX.
4	Filtrate volume	16 ML MAX.
5	Residue of diameter greater than 75 micron	2.50% MAX.

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D. API HIGH GEL:

NO.	PARAMETERS	SPECIFICATION
1	Viscometer dial reading at 600 RPM	50MIN.
2	Yield point/plastic viscosity ratio	6MAX.
3	Filtrate volume	18 cm^3
4	Residue of diameter greater than 75	4% MAX.
5	Moisture	12% MAX.
6	MARSCONE VISCOSITY 6%	50 Sec. MIN.

2. IOP (IRON ORE PELLETIZING) GRADES:

Bentonite is the most widely used binder in iron ore pelletizing. The use of bentonite is favorable in terms of physical, mechanical and metallurgical pellet qualities, however, because of its acid constituents (SiO2 and Al2O3) it is considered as a chemical impurity especially for concentrate with high SiO2 content. Adding bentonite **improves the strength of the green pellet**. The falling strength and compression strength of green pellet increase as bentonite content increases. For homogeneous bentonites, the strength of the green pellet increases as bentonite content increases.

A. IOP BALBOND (LUMPS/POWDER):

NO.	PARAMETERS	SPECIFICATION
	CHEMICAL COMPOSITION	
1	SiO2 %	52max.
2	Fe2O3 %	12min.
3	AL2O3 %	16max.
4	CaO%	0.5-1
5	Na2O%	2.0-2.5
6	MgO%	3.0max.
	PHYSICAL COMPOSITION	
1	Moisture % (ARB)	14.00max.
2	PH	8.5 -10
3	Free Swelling Velum	28-30
4	Methylene Blue Absorption (MBA) mg/g.	400MIN.
5	Plate Water Absorption (PWA) %	600min.

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3. FOUNDRY GRADES:

Green sand molds in foundry use bentonite as a binder. During the casting process, the heat transferred to the surrounding sand in the mold leads to the degradation of bentonite structure, thereby forming new types of deposits on the surface of sand grain.

A. 20-25 FSV GRADE:

NO	PARAMETERS	UNITS	SPECIFICATION
1	pH		8.5 MIN
2	MOISTURE	% WT	12-14
3	GELLING TIME	SECOND	INSTANT
4	GEL INDEX	CC	65 MIN
5	FREE SWELLING VALUE	CC	20-25
6	MBA VALUE	MG/GM OF CLAY	390 MIN
7	FINESS (PASSING THROUGH 200 BSS)	% WT	85 MIN
8	GREEN COMPRESSION STRENGTH	PSI	8 MIN

B. 25-28 FSV GRADE:

NO	PARAMETERS	UNITS	SPECIFICATION
1	pH		9-12
2	MOISTURE	% WT	12-14
3	GELLING TIME	SECOND	Instant
4	GEL INDEX	CC	85 MIN
5	FREE SWELLING VALUE	CC	25-28
6	MBA VALUE	MG/GM OF CLAY	400 MIN
7	FINESS (PASSING THROUGH 200 BSS)	% WT	85 MIN
8	GREEN COMPRESSION STRENGTH		10MIN.

C. 28-30 FSV GRADE:

NO	PARAMETERS	UNITS	SPECIFICATION
1	pH		8.5 MIN
2	MOISTURE	% WT	12-14
3	GELLING TIME	SECOND	40 MAX
4	GEL INDEX	CC	65 MIN
5	FREE SWELLING VALUE	CC	28-30
6	MBA VALUE	MG/GM OF CLAY	400 MIN
7	FINESS (PASSING THROUGH 200 BSS)	% WT	85 MIN
8	GREEN COMPRESSION STRENGTH	PSI	12 MIN

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4. FERTILIZER GRADE:

Sulphur Bentonite is a combination of pure sulphur and Bentonite clay. It is used as a secondary nutrient and also to correct alkaline soil problems. Sulphur is one of the 17 essential plant nutrients and it helps in the formation of essential enzymes and plant proteins. This makes Bentonite Sulphur more effective in terms of supplying Sulphur to Crops.

A. SPECIAL GRADE:

NO.	PARAMETERS	UNIT	SPECIFICATION
1	Free Swelling Value	cc	22 - 30
2	Methylene Blue Absorption	Mg/gm	375 - 400
3	Moisture Content	%	10 – 12%
4	PH		8.50 - 10
5	FINEES 200MESH PASSING	%	85 Min.
6	SiO2	%	45-55
7	AL2O3	%	13-18
8	MgO	%	1-2.5

5. PILLING GRADES:

Bentonite support fluids are also **widely used in the construction of large diameter bored piles**. This application is similar to that for diaphragm wall construction except for the shape of the excavation. Our Piling Grade Bentonite Powder is used widely in many industries as a support, lubricant agent in walls and foundations, tunneling and horizontal drilling. Our Piling Grade Bentonite Powder covers large surface area, has good plasticity and lubricity, low filter loss, excellent gel strength, good impermeability and low compressibility.

A. PILGEL:

NO	PARAMETERS	UNITS	SPECIFICATION
1	Free Swelling Volume 2 gm/100 ml	ML	25 to 30
2	Methylene Blue Absorption Value	Mg/gm of Clay	300 to 500
3	Gel Time 2.5 gm/20 ml	Seconds	Instant
4	Moisture Content % by Weight	%	10.00 - 12.00
5	PH Value 2 % Slurry	pH	8.5 to 11.5
6	Dry Mesh % Passing 200 B.S.S	%	85 Minimum
7	VISCOSITY	Unit	30 Min
8	Filterate VOLUME	ML	20 Max
9	Marsh Funnel Viscosity	Sec	30 to 45

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6. BLEACHING EARTH GRADES:

Bleaching Earth of highest bleachability and filterability for difficult-to-bleach oil fats and oils such as Castor, Palm, Linseed, Rapeseed, Fish, Soyabean, Cottonseed, Rice Bran and Olive. It exhibits high performance in both Chemical and Physical refining of edible oil.

A. BAL-BLEACHING EARTH GRADE:

NO.	PARAMETERS	SPECIFICATION
1	Bulk density	0.6 gm/ml (± 0.1)
2	Moisture @ 110'c	15 max
3	pH (5 % suspension)	2.8 - 4.5
4	Residual Acidity (mgKOH/g)	2.5 (± 1)
5	Acidity (%H2SO4)	0.4 % max
Granulometry		
7	Average Particle Size	20 - 30
8	Less than 5 microns	10.5 % to 20.5% max
9	Less than 90 microns	90 % min
10	BET Surface Area	250 to 350 m^2/gm

7. ATTAPULGITE CLAY:

Attapulgite is a kind of crystalloid hydrous magnesium-aluminum silicate mineral, having a special laminated chain structure in which there is a crystalline lattice displacement existed. Attapulgite has very good colloidal properties such as: specific features in dispersion, high temperature endurance, salt and alkali resistance, and also high adsorbing and de-coloring capabilities. Furthermore, Attapulgite has certain plastic and adhesive characters. It's ideal molecular formula is: Mg5Si8O20(HO)2(OH2)4•4H2O.

BALAJI CORPORATE offering various grades of Attapulgite for Drilling, Bleaching earth, Petroleum oil Purification, Foundry Chemicals, Bio-Fertilizer, Paints, Adhesive, Cat Litter, Adsorbent, Cosmetics and Pharmaceuticals.

A. API 13 A Sec.12:

NO	TESTING PARAMETER	UNIT	SPECIFICATION	RESULTS
1	Suspension Properties (Salt Viscosity) Viscometer Dial Reading At 600 RPM	CPS	Min. 30	34
2	Form		Powder	Powder
3	Colour		Off White	off White
4	Moisture	% Max.	16	8
5	Grit (Wet) Residue of diameter greater than 75µm/200 Mesh.	% Max.	8	3.5

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GARNET ABRASIVE SAND

Garnet abrasive is **most commonly used as a high-performance blast media, for the cleaning of aluminium and fibreglass structures**. Because it is an inert, non-toxic, naturally-occurring mineral, garnet abrasive is also used on sites where water contamination is a concern, such as dry docks, bridges and harbours.

Available Grade Size (In Mesh): **12-24, 20-40, 20-60, 30-60, 80, 120**

CHEMICAL PROPERTIES		
NO.	**CHEMICAL COMPOSITION**	**PERCENTAGE**
1	SiO2	36-37%
2	Fe2O3	25-30%
3	Al2O3	20-24%
4	TiO2	0-2 %
5	CaO	1-3 %
6	MgO	5-9 %
7	OTHER	1-3%

MINERAL COMPOSITION	
MINERALS	**PERCENTAGE**
Garnet sand (Almandine)	97-99 %
Ilmenite	0-2 %
Others	0-1 %

PHYSICAL PROPERTIES	
PARAMETER	**SPECIFICATION**
Specific Gravity	4.1
conductivity	7-12 mS/m
hardness	7.6 in Moh’s scale
Bulk density	2.5 g/cm3
moisture	0.16%
Chloride	15-20 ppm
Acid solubility	<1.0 %

Thanking You…