



PAPER - absorption of wood resins

SMM Bentonite is used in absorption of wood resins that tend to obstruct the machines. This in turn helps to improve the efficiency of the conversion of pulp into paper, and to improve the quality of the paper.

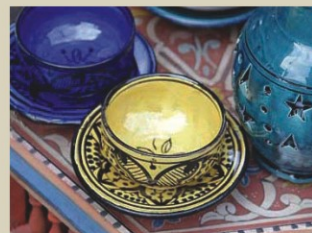
SMM Bentonite also offers useful de-inking properties for paper recycling.



CERAMICS - fluxing agent and plasticizer

SMM Bentonite is used as anti-settling agent in engobes and glazes, as fluxing agent, and as plasticizer.

Bentonite is used in the ceramic industry where it is mixed with clay and sand to form an adhesive.



Marketing Network

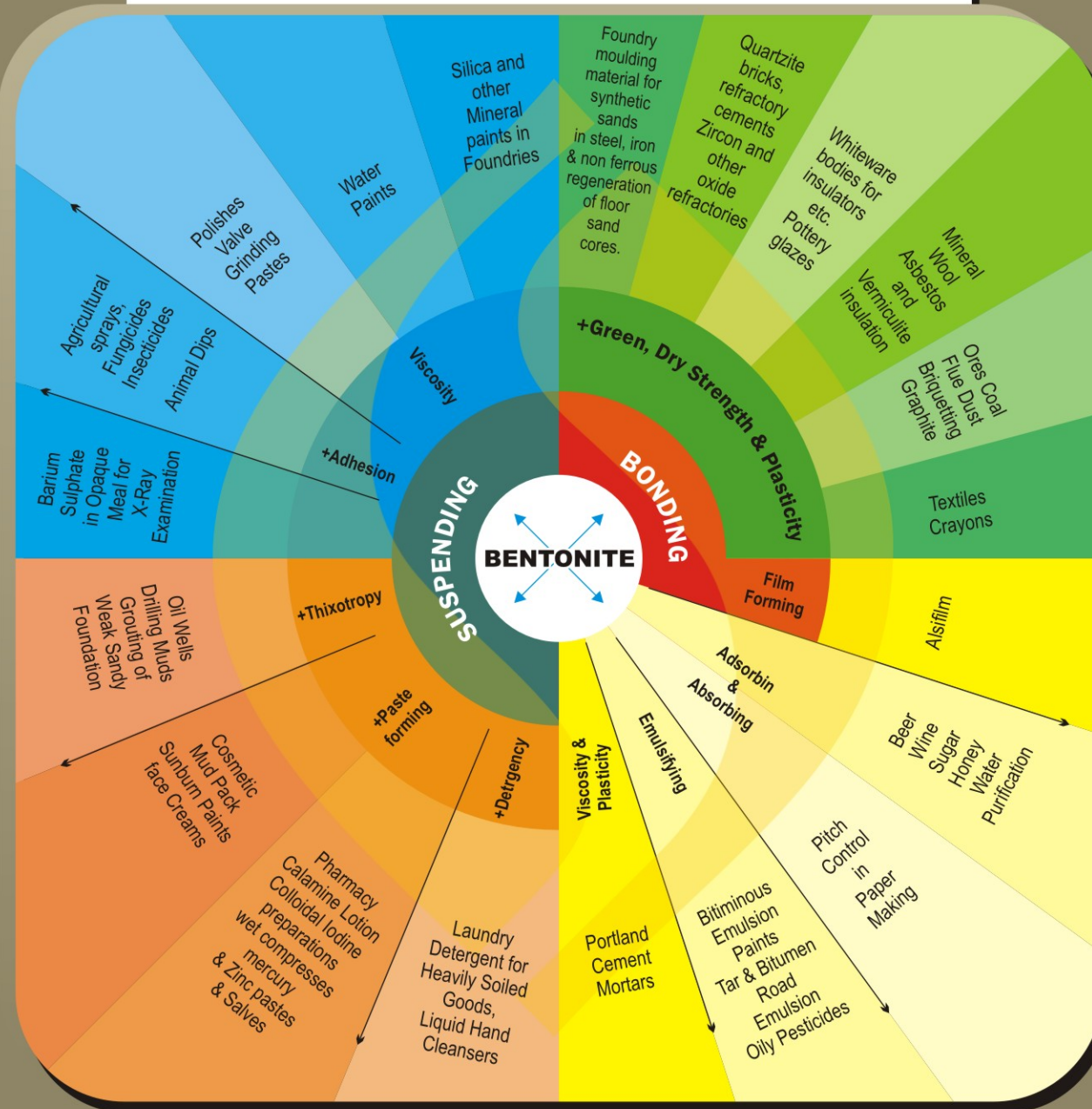
- We cover 80% of India under our network.
- Our network is strategically structured for proximity to customers.
- We work with our customers to achieve shared vision of right solution, scope & cost aspects.
- All our branches are networked with latest communication facilities like internet, mobile, telephone, facsimile.
- Experienced Professionals forms front-end-business development team.
- Frequent visit to operating station / corporate house keeps close track.



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⌘ A DIVISION OF SWATI ENERGY & PROJECTS (P) LTD.

BENTONITE



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Swati Energy & Projects (P) Ltd a conglomerate of the SUGAL AND DAMANI GROUP is a company providing solutions to Energy and Mining sector in India.

Swati Energy & Projects (P) Ltd was established in 1998 to represent world leaders in power generation and mining machinery manufacturers.

The GROUP with an annual turnover of USD 800 million is into various business activities such as :

- ♦ Engineering Goods
- ♦ Finance
- ♦ Stock and Shares
- ♦ Real Estates
- ♦ Travel and Tourism
- ♦ Government Lottery
- ♦ Diamonds

The group has further ventured into the manufacturing and trading of minerals and metals giving rise to a unit of Swati Energy & Projects (P) Ltd called **Swati Metals and Minerals**.

Swati Metals & Minerals (SM &M) deals in various Minerals such as 1.Bentonite 2. Feldspar 3. Kaolin (China Clay) 4. Talc 5. Limestone & Metals such as Silicon Steel (CRGO) & HMS.

Bentonite :

SM&M mines its extensive reserves from one of the richest deposit of Bentonite in the world - The Kutch region In Gujarat.

The Company possesses its own mines which are having large deposits of Sodium & Calcium based Bentonite.

SM&M bentonite is processed under careful supervision and inspected by Independent Laboratories to ensure that both SM&M and industry standards are met.



Foundry



FOUNDRY - bonding material

- ♦ SMM Bentonite provides high tensile properties
- ♦ It controls expansion problems
- ♦ The bond can withstand very high temperatures.
- ♦ It offers high dry compression strength to prevent sand erosion, cuts, washes etc.

SMM Bentonite is a bonding material used in the preparation of moulding sand for the production of iron, steel and non-ferrous casting.

Bentonite is mixed with foundry moulding sands to form a pliable bond with the sand granules.

SOLDER EX NORMAL	
ph Value, 6% Gel	9-9.5
Moisture	10-13%
Free Swelling Value	28 Min.
Liquid Limit%	450-500
Mesh : % Passing 200 BSS Sieve	80-85
Green Compressive Strength using fresh 40/60 As F sand and the ratio Bent/water 5/2	10-11.5
Gel Time, After 2 Minute Rigrour Shaking	1 Min.
MBA Value, mgm/gm Of Bentonite Clay	350-360

SOLDER EX HIGHER	
ph Value, 6% Gel	9.5-10
Moisture	10-13%
Free Swelling Value	33-35 Min.
Liquid Limit%	550-600
Mesh : % Passing 200 BSS Sieve	85-90
Green Compressive Strength using fresh 40/60 As F sand and the ratio Bent/water 5/2	10.5-12
Gel Time, After 2 Minute Rigrour Shaking	30 Sec. Instant
MBA Value, mgm/gm Of Bentonite Clay	360-380

SOLDER EX SUPER	
ph Value, 6% Gel	9.5-10
Moisture	10-13%
Free Swelling Value	38-42 Min.
Liquid Limit%	600 or Above
Mesh : % Passing 200 BSS Sieve	90 Min
Green Compressive Strength using fresh 40/60 As F sand and the ratio Bent/water 5/2	10.5-12
Gel Time, After 2 Minute Rigrour Shaking	30 Sec. Instant
MBA Value, mgm/gm Of Bentonite Clay	400-450

PARAMETERS

PELLETISING - binding agent

- ♦ SMM Bentonite's excellent water absorption property enables easy formation of pellets.
- ♦ The Binding strength is maintained throughout the process.

SMM Bentonite is used as a binding agent in the production of iron ore pellets. Through this process, iron ore fines are converted into spherical pellets which are suitable as feed material in blast furnaces for pig iron production or in the production of direct reduction iron.



DRILLING - mud constituent for oil and water well drilling

- ♦ SMM Bentonite meets API specifications
- ♦ It enhances fluid loss characteristics
- ♦ It withstands very high formation pressure

SMM Bentonite is a mud constituent for oil and water well drilling. Its role is mainly to seal the borehole walls, to remove drill cuttings and to lubricate the cutting head.

The bentonite extracts the drill cuttings from around the bit, which are then floated to the surface. It also serves to lubricate the drill bit as well as seal the drill hole against seepage and to prevent wall cave-ins.

DRILLING GRADE	
API viscosity (cps)	30 min.
Moisture (% by wt)	16 max
Sand Content (% by wt)	8 max.

DRILLING GRADE	
Viscometer dial reading at 600 rpm	30 min.
Yield Point / Plastic viscosity ratio	6 max.
Fluid loss on slurry containing 7.5 gm of clay per 100 ml of distilled water (cm ³)	16 max.
Particle size (US sieve no.200) (% wt)	2.5 max.
Moisture content (% by wt)	13 max.

OIL WELL AND NATURAL GAS DRILLING GRADE	
Viscometer dial reading at 600 rpm	30 min.
Yield Point / Plastic viscosity ratio	3 max.
Filtrate volume (cm ³)	15 max
Particle size coarser than 75 micro meter (US sieve no.200) (% wt)	4.0 max.
Moisture , as shipped from point of manufacture (% by wt)	10 max.

PARAMETERS

Drilling



Animal Feed

ANIMAL FEED - binding agent

- ♦ SMM Bentonite is used as a binder in the feed pelletising industry because of good clumping properties.
- ♦ Small amounts of SMM Bentonite are required to feed products to ensure more durable pellets. By absorbing excess moisture and oils, bentonite aids in preventing lumping and caking of pellets.

ANIMAL FEED	
Moisture at 105 ± 2°C (%)	10 - 12
pH	9 -10
Gelling Time	Instant
Free Swelling Value (ml)	28 - 32
Particle size finer than 200 mesh Sieve.(%)	90 - 95
Loss on Ignition (% wt)	10 max.

PARAMETERS



OILS/FOOD MARKETS - acts as a purifier in substance such as edible oils, wine, fruit juices and mineral water

- ♦ SMM Bentonite 's electro-chemical attraction helps to clarify oil, wine, and fruit juices

When SMM bentonite is mixed with the liquid & agitated, the attractive forces draw impurities together and fall to the bottom for

OILS/FOOD CLARIFICATIONS	
Particle size	75 microns
pH	9.0 - 9.5
Free Swelling value	30 min.
Liquid Limit (%)	550 min.
Moisture	12.55 max.

PARAMETERS



Oils / Food Markets



CONSTRUCTION AND CIVIL ENGINEERING - support and lubricant agent

SMM Bentonite in civil engineering applications is used as a support and lubricant agent in diaphragm walls and foundations as well as in making tunnels.

CIVIL ENGINEERING	
PH(2% Bentonite suspension)	8.5 - 11.5
Moisture (%wt) (@105°C)	14 max
Gelling Time	Instant
Free Swelling Value (ml)	30 - 33
Liquid limit(20gms dry Bent. Pwd. %)	450 min.
Slurry density@ 6% Bent suspension	1 - 1.2 gm/cc
MBA Value (mg/gm of clay)	425 - 475
Particle size finer than 200 mesh sieve (%)	90 - 95

PARAMETERS



Construction