



Big Ditch Bentonite

Sun dried bentonite

Big Ditch Bentonite is a high purity sodium bentonite clay with extremely high montmorillonite content and low grit. Its high purity comes from a pure bentonite deposit. The bentonite is protected from contamination during mining and milling.

Bentonite occurs naturally, having formed from volcanic ash deposited in an ancient depression and modified by geological processes. It is a smectite clay mineral composed of montmorillonite, with silica and aluminium held in a crystalline structure alongside lesser minerals. These minerals are held within the clay crystalline matrix. Bentonite is inert in that the minerals it contains are not available, so the levels of aluminium and other minerals are not toxic.

It is a highly colloidal and plastic clay with the characteristic of swelling to several times its original volume when placed in water. Its small plate-like particles provide a large potential surface area and water absorption. This characteristic makes Big Ditch Bentonite suitable for many uses.

Big Ditch Bentonite contains exchangeable sodium cations. Its small plate-like particles are negatively charged on the surface and positively charged on the edges. This ion exchange is responsible for the binding action. Big Ditch Bentonite has a very high cation exchange capacity.

Typical physical properties

As is basis

PROPERTY	TYPICAL VALUE
Montmorillonite content	>90%
Cation exchange capacity (meq/100 g)	>90
Swell index	7 to 16 mL/2 g
pH	5 to 7.5

Big Ditch Bentonite is available in fine and granular grades to suit customer requirements.

PROPERTY	FINE GRADE	GRANULAR GRADE
Nominal particle size	<1.25 mm	1 to 4 mm
Upper limit tolerance	Retained on 2 mm: 5% max by weight	+4 mm: 5% max by weight
Lower limit tolerance	Passing 75 µm: 15% max by weight	-425 µm: 5% max by weight
Moisture content	12 to 20%	12 to 20%
Bulk density (t/m ³)	1.2 to 1.4	1.2 to 1.4

Typical chemical properties

Oven dried basis (105°C), XRF

Silica (SiO ₂)	61.5%	Alumina (Al ₂ O ₃)	18.5%
Soda (Na ₂ O)	1.3%	Magnesia (MgO)	5.2%
Lime (CaO)	0.1%	Potash (K ₂ O)	1.3%
Ferric oxide (Fe ₂ O ₃)	4.1%		

PACKAGING 25 kg woven bags, 1200 kg bulk bags and bulk loads available.

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