Stuart Wells Limited

Bentonite Cement Powder

These products are pre-blended mixtures of OPC and Civil Engineering Bentonite designed for ease of use and consistency of results to produce final plugs with much lower permeability than a straight cement grout when added to a given volume of water.

Bentonite / Cement blends are easy to mix in water with a paddle mixer, but a supplementary high shear mixer or a re-circulating centrifugal pump mixer is advised to achieve full dispersion.
The resulting grout exhibits slow setting time, good pumpability / workability and low bleed so it is easy to place and will not flash set.

Applications: • General purpose grouting • Closing off wells • Sealing of porous zones

Typical Properties

Physical Properties		Typical Final Plug Properties	
Physical Appearance	Light Grey powder	**2:1 Bentonite:Cement**	**1:1 Bentonite:Cement**
PH	12-14	Firm like stiff clay	Harder grout where strenght is required
Specific Gravity	2.5 - 2.95	Sets in 8-12 hours	Sets in 4-6 hours
Bulk Density	1050 - 1250 kg/m^3	Firm in 24 hours	Firm in 24 hours
Mean Particle Size	5-30 microns	Very firm in 7 days	Hard in 7 days
LOI	1.14%	> 7 days firm-stiff clay	> 7 days gets harder

Mixing Guidelines for some typical mixes*

2:1 Bentonite:Cement			1:1 Bentonite:Cement		
Bags	**Water - Litres***	**Final Vol - Litres**	**Bags**	**Water - Litres***	**Final Vol - Litres**
2	160-180	180-200	3	145-165	175-195
4	320-360	360-400	6	290-330	350-390
6	480-540	540-600	9	435-495	525-585
8	640-720	700-800	12	580-660	700-780
10	800-900	900-1000	15	725-825	875-975

*Water content is for guidance only and users must determine the best mix to suit their purposes.
High shear mixing produces the best grouts which are smooth and creamy at the recommended mix volumes.
Lower water content gives thicker slurry but stronger plugs.
No commitment is given as to specific final plug properties and note that water quality can alter setting times and hardness.

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