

CIVIL PRO™ CB

CEMENT-COMPATIBLE BENTONITE

DESCRIPTION

CIVIL PRO CB is a specially formulated, API 13A Section 9 compliant bentonite that has been formulated to increase compatibility with cement versus standard bentonite grades. It utilizes some of the highest-grade bentonite that CETCO mines and minimizes additives that can negatively impact bleed, set-strength, and hydraulic-conductivity.

RECOMMENDED USE

Should be used in all civil-construction applications that include cement in their formulations and call for use of bentonite. Instances include cement-bentonite and cement-soil-bentonite and composite/hybrid walls. Can also be used for soil-bentonite wall excavations.

Dosing of plasticizers, retarders, and set accelerators should be pre-rialed prior to use in the field. CIVIL PRO CB is compatible with most admixtures.

CHARACTERISTICS

- Easy mixing
- Exceptional filtrate loss control
- Improved compatibility with cement to reduce bleed, improve set-strength and optimize hydraulic permeability
- Very consistent rheology

MIXING AND APPLICATION:

Mixing ratios are based on 90 bbl yield material using freshwater. Level of water purity will affect bentonite performance. Prior to mixing, acidic and hardwater should be treated with SODA ASH to a pH of 8.5-9.5 and/or a hardness below 200-ppm. For best results, add CIVIL PRO CB slowly through a jet/hopper mixer.

PACKAGING

~1 ton or ~2 ton supersacks, or bulk.

DRILLING FLUID AND SLURRY TRENCHING - CIVIL PRO CB MIXING RATIO IN POUNDS (KG) PER 100 GALLONS (380 LITERS) OF WATER		
Condition	Lbs (kg) of CIVIL PRO CB	% Solids
Normal Conditions	34 - 54 lbs (15.7 - 24.3 kg)	4.0 - 6.0% of bentonite slurry
Sand and Gravel	54 - 72 lbs (24.3 - 32.9 kg)	6.0 - 8.0% of bentonite slurry
Ingredient in C-B wall formulation	Varies based on formula	2.0 to 10.0% of total mix weight with water
Admixture for concrete to improve filtrate/bleed	Varies based on formula	3.0 to 5.0% by weight of total cement solids
SLURRY PROPERTIES - 6.04% SOLIDS		
Property	Typical Value	Specification/Procedure
Viscosity FANN 600 rpm	41 cps	30 cps Min - ACC-TP-2005
Viscosity FANN 6 rpm	14 cps	ACC TP-2005
Viscosity FANN 3 rpm	13 cps	ACC TP-2005
Yield - 42 gal bbl of 15 cps slurry/ton	95	90 Min - ACC TP-2001
Marsh Funnel, seconds/quart	42 seconds	ACC TP-1014
Apparent Viscosity (AV)	20.5 cps	15 Min - ACC TP-2005
Plastic Viscosity (PV)	11	ACC TP-2005
Yield Point, lb/100 ft ²	19	ACC TP-2005
Filtrate, 30 minutes @ 100 psi, ml	13 ml	ACC TP-2003
Filter Cake, in	2/32 in	N/A
pH	9.0	ACC TP-1018
GENERAL PROPERTIES		
Property	Typical Value	Specification/Procedure
Moisture %	7.5%	ACC TP-2006
Specific Gravity	2.5 g/cc	Generally Recognized
Bulk Density Non-compacted	53 lbs/ft ³	ACC TP-1005
Bulk Density Compacted	72 lbs/ft ³	ACC TP-1005
Grit % (<75 micron)	2.8%	4.0% Max - ACC-TP-2004
Particle Sizing	78% passing 200 mesh screen	ACC TP-1015

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UPDATED: MAY 2023

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