

Hi-Dense®

Weight Additives

Halliburton Hi-Dense® weight additives can be added to cement slurries to restrain high formation pressure, increase slurry density, and improve mud displacement. The two available grades of Hi-Dense additives are classified according to mesh size. These hematite-ore additives can be mixed to form 26-lb/gal slurries with an effective specific gravity of 3.15. Halliburton markets these products as Hi-Dense No. 3 and Hi-Dense No. 4.

Features

Hi-Dense weight additives consist of a nonradioactive, nonmagnetic hematite material that has a minimal effect on other additives in the slurry. It has only a slight effect on thickening time and does not significantly reduce the compressive strength of set cement.

Hi-Dense No. 3. The amount of water needed to fluidize Hi-Dense No. 3 alone is about 18%, or 2.2 gal/100 lb, resulting in a slurry weight of 26 lb/gal, with an effective specific gravity of 3.15. The foregoing mix-water proportions must be varied to account for effects of various dispersing additives that might cause the weighting additive to settle out.

No more than 70% of Hi-Dense No. 3 additive will be smaller than 325-mesh (45 mm). The application range is up to 320°F.

Hi-Dense No. 4. Hi-Dense No. 4 has the same chemical and physical composition as No. 3, but it has a smaller average particle size. In cementing slurries, this material helps prevent thermal thinning at high temperatures. No more than 90% of Hi-Dense No. 4 will be smaller than 325-mesh (45 mm).

Fluidized Hi-Dense No. 4 requires 2.4 gal of water per 100 lb, resulting in a slurry weight of 25 lb/gal with a specific gravity of 3.0.

Benefits

Hi-Dense weighting additives have the following benefits:

- They help control high formation pressures.
- They increase slurry densities and improve mud displacement.
- They reduce thermal-thinning effects.

Hi-Dense® No. 3 Weight Additive—Product Specifications

Part No.	100023192	Bulk Density	165 lb/ft ³
Form	Fine, reddish-brown granules	Packaging g	100-lb bag
Specific Gravity	5.00		

Hi-Dense® No. 4 Weight Additive—Product Specifications

Part No.	100003768	Bulk Density	175 lb/ft ³
Form	Reddish-brown to reddish-gray powder	Packaging	100-lb bag
Specific Gravity	5.020		

For more information on the benefits High-Dense® Weight Additive can bring to your cementing operations, contact your local Halliburton representative.

www.halliburton.com

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