

M-I BAR

M-I BAR weight material is a high-quality, drilling-grade barite (barium sulfate) used to increase the density of drilling fluids. This high-specific-gravity mineral is the most widely used weight material, has application in all drilling fluid systems and meets all API specifications for barite.*

Typical Physical Properties

Physical appearance.....Powder, various light colors: gray, pink, tan
Bulk density 107-135 lb/ft³ (1,714 - 2,162 kg/m³)

API Specifications

Density..... 4.20 g/cm³, min.
Soluble hardness (as calcium)250 mg/kg, max.
Particles >75 micron (wet screen).....3% wt, max.
Particles <6 micron (sedimentation) 30% wt, max.

Applications

M-I BAR material can be used to increase the density of any mud system. Mud weights up to 20 lb/gal (2.40 SG) can be achieved in most drilling fluids while still maintaining good rheological properties. M-I BAR material is also excellent in formulating special kill fluids and barite plugs that often reach 22 lb/gal (2.64 SG) for well control procedures.

The amount of M-I BAR material required to increase the density can be calculated with the following formulas:

$$\text{M-I BAR, lb/bbl} = \frac{1,470 (w_2 - w_1)}{35 - w_2}$$

Where:

w_1 = Initial mud weight in lb/gal
 w_2 = Desired mud weight in lb/gal

$$\text{M-I BAR, kg/m}^3 = \frac{4,200 (w_2 - w_1)}{4.2 - w_2}$$

Where:

w_1 = Initial mud weight in specific gravity
 w_2 = Desired mud weight in specific gravity

An increase in volume of approximately 1.4 bbl/ton (0.25 m³/tonne) can be expected from M-I BAR material additions. Density increases can require water or base liquid dilution sufficient to wet the surfaces of the added barite adequately.

Advantages

- Essentially chemically inert and insoluble, functions only in a physical manner
- Does not react with other drilling fluid additives or interfere with their function
- Minimally abrasive

Toxicity and Handling

Bioassay information is available upon request.

Handle as an industrial chemical, wearing protective equipment and observing the precautions described in the Material Safety Data Sheet (MSDS).

Packaging and Storage

M-I BAR material is packaged in 100-lb (45.4-kg), multi-wall, paper sacks; 40-kg sacks; big bags and is available in bulk.

Store in a dry, well-ventilated area. Keep container closed. Store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping and/or stacking.

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