



Tiam Earth Advanced Materials

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Technical Datasheet

MICA F/M/C



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Description

Mica F/M/C is a conventional flaky loss circulation material which is applicable in both water-based and oil-based drilling fluid systems. It can alleviate downhole loss circulation with severity of up to 100 BBL/Hr. Mica F/M/C is available in three different sizes (fine, medium and coarse). It is better to pumped as LCM pills, and functions more efficiently when it is used with other type of LCMs such as NUT-PLUG and Sized Calcium Carbonate.

Application

Main function of Mica is to minimize or cure downhole losses in fracture or permeable areas. Based on severity of losses, type and optimum concentration of Mica is selected and pumped. It can be used in workover operations as well as drilling.

Advantages

- Easy to mix through hopper
- Cost effective LCM
- Compatible with most types of regular water-based and oil-based muds
- Stable up to 300°F
- Provide sufficient sealing in fracture zones and thief areas

Limitations

- It has unwanted effects on rheological characteristics when added to the active circulating system, and it is better to be used as LCM pills.
- Medium and Coarse sizes may plug the bit nozzles in high concentrations
- Not suitable for using in reservoir sections

Treatment

Dependent to severity of Losses, normal concentrations for Mica F/M/C ranges from 5 to 50 lb/bbl (14-140 Kg/M³) in LCM pills. It should be added slowly through rig hoppers. Treatments must be performed on an incremental basis to prevent any overtreatment and high rheological properties. In special conditions such as work-over wells or cavernous formations, up to 70 lb/bbl of Mica F/M/C may be needed. It is better to pumped as LCM pills, and functions more efficiently when it is used with other type of LCMs such as NUT-PLUG and Sized Calcium Carbonate. Before mixing and pumping any Mica, mud engineers must check size of material with company representative and MWD specialist to prevent any tool blocking in downhole.



Typical Properties

APPEARANCE	Silver/green/black/grey Flakes
SPECIFIC GRAVITY	2.7-2.9
pH (1% Solution)	NA
Solubility in water	Insoluble in cold water

Mica F/M/C sizes are given in below table:

Mesh No	mm	Mica F	Mica M	Mica C
		% retained/residue		
4	4.76	-	0	30 +/- 10
10	2	-	60 +/- 10	70 +/- 10
12	1.68	0	-	-
40	0.42	40 +/- 5	Min 90	Min 90

Packaging

Mica F/M/C is available in 25 KG SXS.