

Product Bulletin

MICROFINE CEMENT

GENERAL INFORMATION

Applied Chemical Technologies Microfine Cement is a form of cement with a particle size about one-tenth that of API oilwell cements. This small size makes it very useful for sealing small leaks, a job that can be difficult with conventional cement squeezes. Microfine Cement is intended to be used for squeeze cementing operations, for applicability as a lightweight cement and used as a deep-water specialty cement that offers high early compressive strengths.

PHYSICAL PROPERTIES

Specific Gravity:	2.9
Appearance:	Tan/Grey Powder
Odor:	Odorless
Absolute volume:	0.0414 gal/lb
Solubility in water:	Slight (0.1-1.5 g/l)

CHEMICAL DESCRIPTION

Microfine Cement is prepared from blast-furnace slag. It is chemically similar to a high sulfate resistant (HSR) oil well cement. It is an ultrafine blend of ground blast-furnace slag as a main component and ground Portland clinker.

LIMITATIONS

Microfine Cement should not be mixed at densities over 12.0 lb/gallon, as it will be very thick and hard to mix above that density. The use of dispersants is strongly suggested both for mixability and for best performance in penetrating. Microfine Cement is compatible with most conventional oil well cement additives, though it will require more retarder than conventional cements. Fluid loss additives are not normally used with Microfine Cement.

RECOMMENDED USES

Microfine Cement should be considered for repair of collar leaks, pinhole leaks in pipe, micro-annulus leaks, or any situation where conventional cement will not penetrate.

Microfine Cement can be mixed according to the following schedule. The sack basis is 55 pounds of product.

<u>Density</u>	<u>Mix water</u>	<u>Yield</u>
11.0 lb/gal	11.60 gal/sk	1.84 cu. ft./sk
11.5 lb/gal	9.31 gal/sk	1.55 cu. ft./sk
12.0 lb/gal	7.73 gal/sk	1.33 cu. ft./sk

PACKAGING

Microfine Cement is furnished in 55-pound lined bags. Opened bags should be tightly closed to preserve integrity of product. It is not a DOT regulated material.

AVAILABILITY

Microfine Cement is conveniently warehoused on the Gulf Coast, in Broussard, LA for quick and easy pickup or delivery 24 hours/day 365 days/year.

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Example Slurries with Microfine Cement

Density- lb/gal	gal/sk	Additives	Temperatu re	24-hour Strength	72-hour Strength
11.0	11.6	none	80F	125 psi	185 psi
11.5	9.31	none	80F	225	540
12.0	7.73	none	80F	450	1060
11.5	9.31	none	120F	240	440
Density- lb/gal	gal/sk	Additives	Temperatu re	Thickening Time	
11.5	9.31	none	80F	~6 hr	
11.5	9.31	0.27 lb/sk CD-70	80F	~7 hr	
12.0	7.73	1.10 lb/sk CR-100	190F	~3.5 hr	
12.0	7.73	0.82 lb/sk CR-100 + 0.82 lb/sk CD-70	190F	~2.5 hr	