

DESCRIPTION Fritz FL-14 is a powdered fluid loss additive recommended for blending with cement to control the loss of filtrate from a cement slurry.

- ADVANTAGES**
- FL-14 is a non-retarding synthetic copolymer designed to control the loss of fluid from the slurry in porous environments.
 - It is ideally suited for squeeze cementing particularly in coil tubing due to its non-gellation properties.
 - In primary cementing, it functions as a gas migration control additive because of its non-gellation characteristics.
 - It provides exceptional filtrate control when used with retarders at bottom hole circulating temperatures up to 350°F (177 C).

- APPLICATION**
- FL-14 may be used for fluid loss control in any API class of cement (A, C, G, or H).
 - It may be used with other cement additives such as dispersants, silica flour, retarders, defoamers and weighting materials.
 - FL-14 is not recommended for use in slurries with salt concentrations of 18% bww or greater.

- PROPERTIES**
- Off-White Powder
 - Specific Gravity – 1.41
 - Solubility limited by resultant viscosity
 - pH – Neutral
 - Water Requirement – none
 - Packaged in 50 lb. bags
 - Loading Rate – 0.3 to 1.0% bwc
 - See Fluid Loss & Gas Migration Control Data

The information contained herein is based on data considered accurate with representative samples. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. The above data does not imply specifications for this product. Fritz Industries, Inc. assumes no responsibility for personal injury or property damage to vendees, users or third parties, caused by the material. Such vendees or users assume all risks associated with the use of the material. Consult the Material Safety Data Sheet before using this product.

FL-14 FLUID LOSS TESTING

ADDITIVE	% BWC	WATER, GAL./SK	TEMP., °F	ATM. VIS., Bc		RHEOLOGY (rpm)						FLUID LOSS, CC	THICKENING TIME, H:MM	COMMENTS
				i	f	600	300	200	100	6	3			
FL-14	0.3	5.0	80	5	6	129	70	48	27	4	3	78		
FL-14	0.6	5.0	80	7	10	272	149	112	60	6	5	36		
FL-14	0.6	9.06	80	15	12	151	91	69	44	5	5	42		8% BENTONITE BWC
FL-14	1.0	11.8	80	9	5	82	46	34	21	3	2	72		2% SODIUM METASILICATE BWC
FL-14	0.4	5.0	125	7	7	144	84	60	36	5	4	62		
FL-14	0.5	5.0	125	9	9	215	123	88	53	7	5	48		
FL-14	0.6	5.0	125	7	7	230	135	96	55	7	5	42		
FL-14	0.6	5.0	125	9	9							32		
NEAT	0.0	4.3	125										2:04	API 8,000 FT. CASING SCH. 5G
FL-14	0.3	4.3	125	8	9	210	124	90	53	7	6	90		
FL-14	0.4	4.3	125	9	9	275	165	121	71	9	6	54		
FL-14	0.5	4.3	125	10	11	330+	224	165	98	12	8	44		
FL-14	0.6	4.3	125										2:53	API 8,000 FT. CASING SCH. 5G
FL-14	0.5	4.3	125	7	7	220	135	98	58	8	7	104		2% CALCIUM CHLORIDE BWC
FL-14	0.6	4.3	125	10	9	300+	161	118	70	10	7	66		2% CALCIUM CHLORIDE BWC
FL-14	0.8	5.0	180	12	11	212	125	91	53	6	4	32		
FL-14	0.8	5.0	180	11	11	175	98	70	41	4	2	40		
FL-14	0.6	4.3	180	9	7	137	77	51	32	4	3	112		SEA WATER
FL-14	0.8	4.3	180	13	7	209	122	89	51	5	3	44		SEA WATER
FL-14	0.6	5.0	125	9	9	236	141	104	61	7	5	70		CLASS G CEMENT
FL-14	0.8	5.0	180	12	9	254	155	115	67	7	5	56		CLASS G CEMENT

* ALL TESTING WAS PERFORMED WITH CLASS H CEMENT UNLESS OTHERWISE NOTED.

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FL-14 ZERO STATIC GEL STRENGTH & GAS MIGRATION CONTROL TESTING

SLURRY COMPOSITION	TEMP., °F	THICKENING TIME, H:MM	ZERO STATIC GEL STRENGTH, MINUTES	TRANSITION TIME, MINUTES	UCA 50 PSI, H:MM	UCA 500 PSI, H:MM	UCA 24 HR., PSI
H CEMENT+ RETARDER	140		53	333	8:10	9:35	2591
H CEMENT+ RETARDER+ 0.6% FL-14	140	4:45	545	5	9:39	10:51	2786
H CEMENT+ RETARDER	200		47	14	7:46	8:27	3175
H CEMENT+ RETARDER+ 0.6% FL-14	200	4:20	433	65	10:26	11:18	2660
H CEMENT+ RETARDER	250		67	62	5:45	6:31	2090
H CEMENT+ RETARDER+ 1.4% FL-14	250	4:19	241	67	6:47	7:44	1439

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