

- DESCRIPTION** FRITZ PCR-3L is synthetic cement retarder used to control the thickening time of a cement slurry.
- ADVANTAGES**
- PCR-3L is a 40% active liquid that is added to the mixing water before slurring with cement.
 - It may be used to control the setting of a slurry for bottom hole circulating temperatures up to 250°F. (121 C).
 - In saturated salt slurries it may be used to 350°F. (177 C)
 - In fresh water cementing systems it may be used up to 430°F (221 C) when combined with Fritz PCR-4, cement retarder intensifier.
 - PCR-3L has a retarding and dispersing effect on the cement slurry during placement.
- APPLICATION**
- PCR-3L may be used for retarding any API class of cement (A, C, G or H).
 - It may be used with other cement additives such as fluid loss additives, silica flour, dispersants, defoamers and weighting materials.
- PROPERTIES**
- Clear to Yellow Liquid (40% Solution)
 - Packaged in 5 gallon pails and 55 gallon drums
 - Specific Gravity – 1.18
 - Bulk Density – 9.80 lb./gal.
 - Absolute Volume – 0.1020 gal./lb.
 - Water Requirements – none
 - Loading Rate – 0.025 to 0.50 gal./sk (0.09 to 1.8 L/sk)
 - See Thickening Time Data for PCR-3

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.

PCR-3

POLYMER CEMENT RETARDER TESTING

**THICKENING TIME DATA IN CLASS H CEMENT
CONTAINING 35% #1 SILICA SAND AND 0.5% FLA
4.8 GAL./SK (18.2 L/SK); 16.9 LB./GAL. (2.0 KG/L)**

PCR-3, % BWC	THICKENING TIME, H:MM				
	150°F (65 C)	180°F (82 C)	200°F (93 C)	220°F (104 C)	245°F (118 C)
0.4	3:07	-	-	-	-
0.5	4:53	4:38	4:41	-	-
0.8	-	8:27	7:27	-	-
1.0	-	-	7:36	5:10	3:44
1.3	-	-	-	6:39	4:27
1.5	-	-	-	-	4:40

**THICKENING TIME AND UCA DATA IN CLASS H CEMENT
CONTAINING SATURATED SALT, 35% #1 SILICA SAND AND 0.5% FLA
5.1 GAL./SK (19.3 L/SK); 17.0 LB./GAL. (2.0 KG/L)**

PCR-3, % BWC	FL-17, % BWC	TEST TEMPERATURE	THICK. TIME, H:MM	24 HR. UCA STRENGTH, PSI
0.2	0.0	245°F (118 C)	5:15	3,750
0.5	0.0	277°F (136 C)	6:58	2,550
0.5	0.0	308°F (153 C)	4:10	3,100
0.5	1.0	308°F (153 C)	4:42	-
1.0	0.0	348°F (175 C)	6:00	2,700
1.0	1.0	348°F (175 C)	4:50	-

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