

- DESCRIPTION** FRITZ PCR-4L is a liquid cement retarder and retarder intensifier used to control the thickening time of a cement slurry.
- ADVANTAGES**
- PCR-4L is a 40% 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 from 220°F (104 C) to 430°F. (221 C)
- APPLICATION**
- Its primary application is as a retarder intensifier for use with Fritz PCR-3.
 - PCR-4L 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 Liquid (40% solution)
 - Specific Gravity – 1.20
 - Bulk Density – 10.00 lb./gal.
 - Absolute Volume – 0.1000 gal./lb.
 - Packaged in 5 gallon pails and 55 gallon drums
 - Water Requirements – none
 - Loading Rate – 0.05 to 0.47 gal./sk (0.18 to 1.78 L/sk)
 - See Thickening Time Data for PCR-4

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-4

CEMENT RETARDER INTENSIFIER TESTING

**THICKENING TIME AND UCA DATA IN CLASS H CEMENT
CONTAINING SATURATED SALT, 35% #1 SILICA SAND AND 0.5% FLA
5.51 GAL./SK (20.9 L/SK); 17.0 LB./GAL. (2.0 KG/L)**

PCR-4, % BWC	PCR-3, % BWC	THICKENING TIME, H:MM @ 285°F (140 C)
0.3	0.65	3:15
0.3	0.55	3:30
0.2	0.55	2:24
0.3	0.55	3:36
0.4	0.55	4:29

**THICKENING TIME AND UCA DATA IN CLASS H CEMENT
4.8 GAL./SK (18.2 L/SK); 15.9 LB./GAL. (1.9 KG/L)**

PCR-4, % BWC	PCR-3, % BWC	THICKENING TIME, H:MM @ 270°F (132 C)
0.0	0.7	0:40
0.2	0.7	2:59
0.4	0.7	7:19
0.6	0.7	7:56

**THICKENING TIME AND UCA DATA IN CLASS H CEMENT
CONTAINING 35% #1 SILICA SAND AND 1.0% FLA
5.1 GAL./SK (19.3 L/SK); 17.0 LB./GAL. (2.0 KG/L)**

PCR-4, % BWC	PCR-3, % BWC	THICKENING TIME, H:MM @ 370°F (188 C)
1.0	2.0	7:20
0.9	1.8	5:57
0.8	1.6	5:27
0.7	1.4	4:40
0.6	1.2	3:55

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