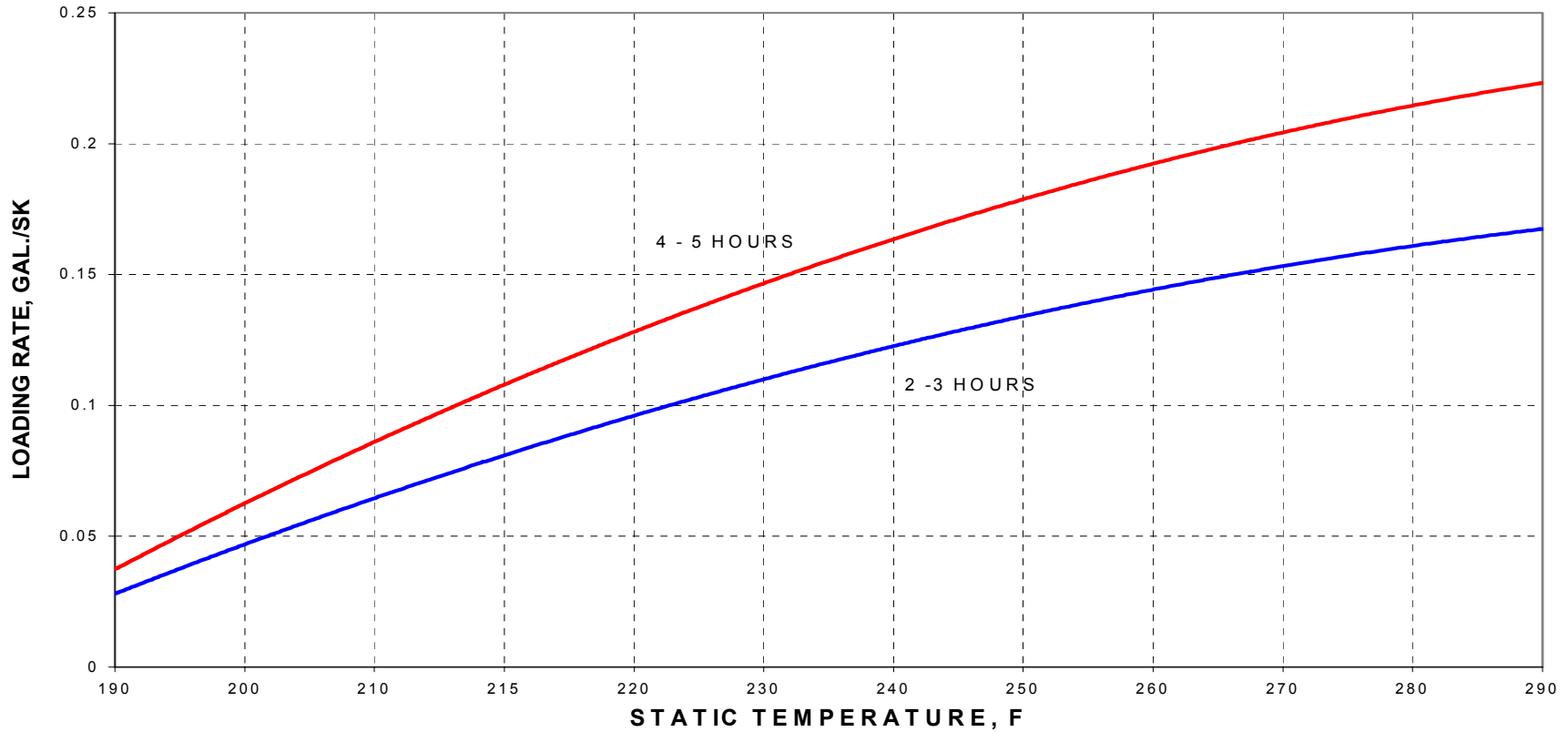


- DESCRIPTION** FRITZ FR-1L is a liquid lignosulfonate cement retarder used to control the thickening time of a cement slurry.
- ADVANTAGES**
- FR-1L is a 40% active liquid that is added to the mixing water before slurring with cement.
 - It may be used to control the setting of a slurry for bottom hole circulating temperatures up to 250°F. (121 C)
 - It has a retarding and dispersing effect on the cement slurry during placement.
- APPLICATION**
- FR-1L 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**
- Brown Liquid – 40% solution
 - Specific Gravity – 1.18
 - Bulk Density – 9.86 lb./gal.
 - Absolute Volume – 0.1014 gal./lb.
 - Packaged in 5 gallon pails and 55 gallon drums
 - Loading Rate – 0.02 to 0.48 gal./sk (0.08 to 1.8 L/sk)
 - See Thickening Time 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.

FR-1L
SQUEEZE CEMENTING



CLASS H CEMENT, 16.4 LB./GAL., 4.3 GAL. WATER/SK, 1.06 CU.FT./SK

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Corporate Headquarters P.O. Drawer 170040, Dallas, TX 75217
1-800-955-1323 • 1-972-285-5471 • Fax 1-972-270-0179
Visit our website at www.fritzoil.com or e-mail us at oilsales@fritzind.com