



P-D90L

CEMENTING SERVICE BULLETIN

09/21/18

P-D90L (PETROCHEM – MODIFIED DISPERSANT)

TECHNICAL DATA

P-D90L provides cement slurries with lower rheologies and improved mixability. This means lower friction pressures and lower critical rates for turbulence. It is intended to complement Liquid P-D88L and not replace it.

P-D90L is used when P-D88L exhibits unacceptable free water and/or sedimentation due to the nature of the cement and mix water and due to the degree of dispersant efficiency required. Compared to P-D88L, it induces much less free water and/or sedimentation in this type of application, even if largely overdosed.

The same reasoning for using P-D90L instead of P-D88L can be applied to P-D90L selection over any other dispersant. However, P-D90L is not a replacement for other dispersants and if used in the wrong application, high concentrations will be required which may cause gelation problems.

The low free-water characteristic is unique to P-D90L. Therefore, P-D90L is especially suited for applications where such problems are critical. This is the case in deviated (or horizontal) wells when fluid-loss control is essential; or more generally, in any situation where the density of the slurry must remain identical all along the cemented string.

P-D90L is incompatible with Calcium Chloride concentrations greater than 2% BWOC. Cement systems containing P-D90L and Liquid Retarder P-SRL will always exhibit high free-water development. P-D90L can be used in salt solutions up to salt saturation but requires higher concentrations than needed in fresh water.

SLURRY DESIGN

Easy-To-Disperse (ETD) and Easy-To-Disperse in Salt (ETDS) cements are susceptible to the development of very high free water and/or sedimentation in the presence of many dispersants. Liquid P-D90L is primarily intended for use in ETD or ETDS cements when a dispersant is required.

Typical concentrations ranging from 0.05 to 0.10 gal/sk at 85°F (29°C) and 0.01 to 0.02 gal/sk at 185°F (85°C) and will provide ETD cements with desired dispersibility and acceptable levels of free water and/or sedimentation.

If control of the free water/sedimentation and yield value are critical, they should approach zero once the P-D90L concentration is optimized for yielding a low free water with no sedimentation.

In cases where the sedimentation and/or free-water problem cannot be solved with P-D90L, the use of Anti-settling Agent P-ASA/L should be considered.



SECONDARY P-D90L EFFECTS

P-D90L will slightly extend the thickening time of typical cement slurries containing Retarders. However, excellent compressive strengths are obtained in a desirable time frame.

COMPATIBILITY

FLUID-LOSS ADDITIVES:

P-D90L is fully compatible and designed to be used with Liquid P-F401L. Other fluid-loss agents such as P-FLA/S, P-FLA and P-FLE are not expected to require P-D90L as they increase the viscosity and yield value of the slurry. P-D90L is also compatible with P-1000 & P-2000 (Gas Control & Fluid-Loss).

At temperatures greater than 200°F (93°C), P-D90L has been found to be a more potent fluid-loss aid than P-D88L both in Class G and Class H cements, without free-water development.

Liquid P-D90L is compatible with most retarders, except for P-SRL where free water development is still high. The use of anti-settling agent P-ASA/L should be considered in this case. Laboratory testing is required to determine the type and concentration of retarder for optimum slurry design.

OTHER ADDITIVES

P-D90L never should be used with more than 2% Calcium Chloride. Strength-retrogression additives P-SS and P-SF are compatible with P-D90L and has proven superior to P-D88L in the design of P-SL40 or P-SL60 lightweight slurries.