P-ASA

CEMENTING SERVICE BULLETIN

04/1/18

P-ASA (PETROCHEM – ANTI-SETTLING AGENT)

TECHNICAL DATA

P-ASA is a powder additive developed to reduce free water, sedimentation, and density gradation - collectively referred to as slurry instability in cement slurries. It provides this stability improvement with varying increases in rheological values depending on the slurry design. P-ASA should have minimal effects on thickening time, fluid-loss control and compressive strength development.

P-ASA can be used at temperatures ranging from 80 to 300°F (27 to 149°C). Above 300°F (149°C), it undergoes a rapid degradation that cannot be overcome by increasing its concentration.

There is no defined slurry range for P-ASA applications, although the recommended lower density limit is 12.5 PPG (1.5 S.G.) for Class G and H cements containing extenders other than P-SL50.

P-ASA can be used in cement systems containing 0 to 37% BWOW Sodium Chloride; however, concentrations of Sodium Chloride greater than 5% BWOW must be dry blended or added to the mix water after adding the P-ASA . P-ASA can be used with seawater, although the required concentrations may be slightly higher and the results will not be as good as with freshwater or Sodium Chloride systems. P-ASA is not effective in slurries containing Calcium Chloride.

P-ASA can be either added to the mix water or dry blended with the cement. However
P-ASA is not to be pre-blended with other powdered additives by themselves or diluted in water to prepare a liquid version of P-ASA. For that we have P-ASAL (Anti Settling Agent Liquid). The normal P-ASA concentration range for correcting slurry instability is 0.1 to 1.5% BWOC which will stabilize slurries from 12 to 22 PPG. Beyond this concentration range, the slurry rheological values are affected to varying degrees.

SLURRY STABILITY

Cement slurries are designed to provide certain performance properties under well bore conditions. These properties; Permeability, Compressive strength and Zonal isolation are dependent on a slurry maintaining a stable solids-to-fluid ratio throughout the well bore.

Tests to measure the stability of a cement-slurry have been constantly increasing in number and complexity. These tests basically look for one piece of information; how uniform is the suspension of cement particles throughout the slurry under placement and curing conditions. P-ASA is designed to improve the slurry suspension properties, even for over dispersed cement slurries.

FREE WATER

In the laboratory, free water is the clear fluid that develops at the top of a static column of cement contained in a graduated cylinder. Under well bore conditions; it can take the form of channels along one side of a deviated well bore or pockets of water within a vertical column of set cement.

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In some-slurries a density profile develops from the top (less than design density) to the bottom (greater than design density) of the cement column and it steadily increases as the column compresses. The quantity of this density increase with depth is referred to as the density gradation of the slurry. It is usually considered acceptable when the density difference between the top and bottom is less than or equal to 10% of the design density.

Free water is present in slurries with and without cement additives. With easily dispersed cements, the free water can increase when dispersants and fluid-loss additives are incorporated.

P-ASA only counteracts free water induced by cement additives, which exhibit dispersing properties. It is not effective in curing free water that naturally occurs in a cement-slurry.

FLUID-LOSS CONTROL

P-ASA is compatible with all Petrochem fluid-loss additives at the proper concentration.
P-ASA should not have any substantial effect on the fluid-loss control, except when good fluid-loss control was achieved by slurry sedimentation.

RETARDERS

P-ASA is compatible with all Petrochem retarders. At temperatures less than 125°F (52°C), it may have a retardation effect on the slurry.

ACCELERATORS

P-ASA performance is satisfactory with Sodium Chloride systems. P-ASA is not effective in systems containing Calcium chloride.

EXTENDERS

P-ASA is compatible with all Petrochem cement extenders and is an excellent slurry stabilizer for cement systems containing P-SL50.

WEIGHTING AGENTS

P-ASA is compatible with all Petrochem weighting agents. The only design limitation with high-density slurries using P-ASA is the mixing ability of the cement slurry.

P-ASA helps reduce the density difference in a vertical cement column. This attribute becomes more noticeable as the concentration of the weighting agent is increased. P-ASA helps improve the suspension of the weighting agent throughout the cement slurry to help maintain the slurry properties as per design.

SAFETY

Read the P-ASA Safety Data Sheet (SDS) before use.

PROPERTIES

PRODUCT	FORM	SP.GR.	PACKAGING
P-ASA	Grey/White Powder	2.53	50 Lb. /sack.

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