FRANKLIN WELL SERVICES INC
Vincennes, IN
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TECHNICAL INFORMATION SHEET

FRANKLIN SALT SYSTEM CEMENT

Throughout the Illinois Basin, most wells have several zones on interest to complete. Obtaining reliable zone isolation during the primary cement job is crucial to the success of the well. Even when proper cementing practices are followed, such as proper casing centralization and removal of the mud cake during the cement job, you may still have a micro-annulus between the cement and the casing.

The bond between the casing and cement is affected by temperature and pressure changes which cause the pipe to alternately expand and contract. During the initial set of the slurry, the pipe is in an expanded state as a result of the heat of hydration of the cement. Subsequent internal temperature reduction, as a result of production or with the introduction of cold treating fluids, cause the pipe to contract destroying the cement to pipe bond.

The expansive properties of Franklin Salt System (FSS) cement slurries have been successfully utilized throughout the Illinois Basin for years to eliminate the problem of micro-annulus. FSS slurries will continue to expand for several days after the initial set.

The 10% gypsum in the system reacts with the tri-calcium aluminate (C3A), in the Portland cement to create the expansion. The expansion also creates an added benefit. It renders the set cement sulfate resistant.

Since FSS is normally mixed with 10% Sodium Chloride, the slurries exhibit excellent rheologies, which makes FSS a very pumpable slurry.

Cement Properties

Density	14.2	lbs / gal
Yield	1.63	cu ft / sk
Mix Water	7.9	gal / sk

Compressive Strength

780 psi @95F	24 Hour