



P-ESA

PRODUCT DATA SHEET

1/10/22

P-ESA (PETROCHEM - ENHANCED STRENGTH ADDITIVE)

TECHNICAL DATA

- **P-ESA** is a fibrous material that has been developed to increase the stress resistance of cement. The function of the fibers is to reinforce the cement by transferring the stress evenly throughout the cement.
- **P-ESA** is recommended for use in any cement system where increased stress resistance is required.
- **P-ESA** increases the tensile, compressive, and shear strength of the cement.
- **P-ESA** is compatible with all cement systems and cement additives. Special cement systems having a high viscosity, such as Thixotropic Cement or high gel cement, should be pre-tested with **P-ESA** to ensure that the resulting slurry is not too viscous.

PROPERTIES

- Appearance: White Fibers
- Specific Gravity: 1.13
- Temperature Range: No Limit

RECOMMENDED TREATMENT

- Concentrations of 0.25 to 0.50 lbs. of **P-ESA** per sack of cement produces higher compressive, shear and tensile strengths.

MIXING PROCEDURE

- **P-ESA** is a particulated material and should be handled as a bridging material.
- **P-ESA** can be dry blended with the cement and mixed through a mixer tub. It will tend to separate toward the top since it is lighter than cement. The blending procedure used should be similar to that used for blending Cellophane-Flake, Ground Coal, cement Extenders and other lost circulation materials.

THICKENING TIME

- **P-ESA** is an inert material that does not affect the thickening time, therefore the existing thickening time data for a particular cement system can be used.

COMPRESSIVE STRENGTH

- **P-ESA** will increase the 24-hour compressive strength by ~5-10% more than a neat cement system. The following compressive strength data shows this effect.
- Compressive strengths for various amounts of **P-ESA** (Class H Cement + 0.3% P-LTR (Petrochem - Low Temperature Retarder) with 46% Water for 24 hours at 150°F & 200°F).



COMPRESSIVE STRENGTH (PSI)

| P-ESA (LBS./SACK) | 150°F | 200°F |
|-------------------|-------|----------------------------|
| 0.00 (NONE) | 3650 | 5235 |
| 0.25 | 4030 | 5785 |
| 0.50 | 3825 | 5524 URS AT 150°F & 200°F) |

SLURRY HANDLING

- The P-ESA modified slurry may bridge off small openings. Therefore, it should not be pumped through perforations or tools with small ports.
- P-ESA does not require extra mixing water.

PACKAGING

- P-ESA is packaged in 40 x 50 lb. Sacks / Pallet.

SAFETY

- Read the SDS before use.