

# Pol-E-Flake® Improves Loss Control Efficiency and Reduces Treatment Costs in Cementing Systems

Application: Primary and remedial cementing loss control

Product: Pol-E-Flake® Polyester Film Lost Circulation Material

## FIELD VALIDATION

### Challenge

- High dosing requirements with traditional cellophane flakes
- Inconsistent sealing performance across variable formations
- Operational inefficiencies during blending and pumping

### Solution

- Replaced cellophane with Pol-E-Flake®
- Leveraged lower density to reduce treatment concentrations
- Utilized multiple grind sizes for optimized PSD design
- Integrated into bulk blending systems without operational disruption

### Results

- Reduced material usage and overall treatment cost
- Improved sealing at the wellbore face
- Enhanced operational efficiency in blending and pumping
- Reliable performance across global cementing operations

## OVERVIEW

Pol-E-Flake® is widely utilized by major U.S.-based service companies with global operations as a replacement for traditional cellophane flakes in cementing systems. Its engineered flake structure and lower density provide effective mechanical bridging while reducing material requirements and overall treatment cost.

## CHALLENGE

Operators and service companies have historically relied on cellophane flakes as a component in cementing loss circulation systems. However, these materials often require higher treatment concentrations and may not provide optimal sealing performance across varying fracture widths and permeability profiles.

Additional challenges include:

- High material usage required to achieve effective loss control
- Limited sealing efficiency in complex or irregular loss zones
- Operational issues such as blending inefficiencies and pump instability
- Need for materials that integrate easily into bulk cementing systems

Service companies required a more efficient alternative that could reduce dosing requirements while improving sealing performance and operational reliability.

## CUSTOMER INSIGHT

"We use Pol-E-Flake® as one of the components in various cementing slurry designs."

"The material is easily dry blended in our bulk plants and does not cause pump cavitation seen with other materials."

"Pol-E-Flake® provides effective sealing while reducing the amount of material required compared to traditional options."

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## SOLUTION

Pol-E-Flake® is deployed as a direct replacement for cellophane flakes within cement slurry designs. Due to its lower density, approximately half that of conventional cellophane, equivalent or improved performance was achieved at reduced treatment concentrations, lowering overall material usage.

The engineered polyester flake structure provides enhanced mechanical strength and flexibility, allowing the material to conform to irregular loss zones and form effective overlapping barriers at the wellbore face.

Available in multiple grind sizes ranging from 1/8 in. to 3/8 in., Pol-E-Flake enables tailored particle size distribution (PSD) design, improving bridging efficiency across a wide range of fracture geometries.

The material is inert and compatible with cement systems and can be easily dry blended in bulk plant operations without introducing mixing challenges or pump instability.

## RESULTS

Across multiple service companies and global operations, Pol-E-Flake® has demonstrated:

- Reduced material usage due to lower density and dosing requirements
- Improved sealing efficiency through enhanced flake structure and PSD flexibility
- Effective formation of a sealing mat at the wellbore face
- Reliable integration into bulk blending operations without pump cavitation
- Consistent performance across a wide range of cement slurry designs

By reducing treatment concentrations while improving performance, Pol-E-Flake provides both operational and economic advantages compared to traditional cellophane-based systems.