

Curramix 3500

Project Objective:

Curramix 3500 is a high temperature inorganic coating developed for FCC slurry, crude and hydrocarbon services where fouling and coking lead to frequent maintenance cleaning. Applied as a thin film (20-40 microns) the coating reduces surface tension to minimize product accumulation at the tube wall and improve release in normal operations.

The objective of this lab evaluation was to soak 3500 coated tubes in static crude product at a high temperature and observe coupon after 6 weeks. A separate coated tube was soaked in well water (700 PPM chlorides and mineral content) at an elevated temperature for the same period.

A visual observation will assess coated coupon condition and surface repellency after exposure.

Project Description:

- Six weeks immersion in crude at 600 F (315 C).
- Six weeks in high mineral content water at 203 F (95 C).
- 60 days in Atlas Cell with de-min water.
- 30% HCL and 50% Na Hydroxide.

Conclusion:

Observations of coated tube after six weeks continuous immersion in crude at 600 F - no loss of repellency or gloss.

Six weeks immersion in well water at 95c shows no corrosion and no mineral attachment (uncoated OD had scale, oxidation).

Other tests are ongoing:

Atlas Cell with de-min water shows no blistering or loss of repellency after 60 days of continuous exposure.

Currently performing 30% HCl and 50% Na Hydroxide.

Contact Edward L. Curran (ecurran@curranintl.com) for more information about heat exchanger coating using Curramix 3500.



Curramix 3500 non-stick benefits after static soak in hot crude; (below) image of coated ID and uncoated OD subjected to high chloride well water.

