TK™-99

TK™-99 is a highly flexible holiday free, thick film coating for CO_2 injection and other enhanced recovery projects. It is designed for general corrosive service. Formulated with a thermoplastic nylon resin, this material can withstand metal deformation and reverse impact damage beyond that of normal thermoset systems. Therefore, damage to the coating resulting form slips and tongs, bend, elongation, and other types of steel deformation, that would cause mechanical damage, is greatly reduced. Laboratory and field results have confirmed TK-99's ability to provide corrosion resistance in CO_2, water and hydrocarbon environments up to 225°F *(107°C)*. This makes it an ideal coating for enhanced recovery projects, in particular, CO_2 injection. The low surface roughness of TK-99 allows for increased hydraulic efficiency.

Specifications

Type	Nylon *(Powder)*
Color	Black
Temperature	225˚F *(107˚C)*
Pressure	To yield strength of pipe
Applied Thickness	12–25 mils *(305–635 µm)* up to 3 ½", > 3 ½" 12 mil minimum
Primary Applications	New and used Injection tubing, production tubing and flowlines.
Primary Service	CO_2, fresh and salt water, oil, and gas service to 225°F *(107°C)*
Limited Service	Not recommend with stimulation acids concentration above 15%. Caution with environments containing H_2S.

Stimulation Fluids:

When stimulation fluids are charged through coated tubing, there is generally little effect if the fluids are flushed completely through the tubular. However, some organic acids, caustic and solvents may have a detrimental effect on certain organic coating systems and should be evaluated prior to use. If stimulation fluids are left in the tubing, they can reach formation temperature and cause accelerated attack on the coating. A Tuboscope representative should be consulted when stimulation is contemplated.

Sample of Testing Capabilities:

Thermal Analysis
- Differential Scanning Calorimeter *(DSC)*
- Thermomechanical Analysis *(TMA)*
- Thermogravimetric Analysis *(TGA)*

Spectroscopy
- Fourier Transform Infrared Spectrophotometer
- Electrochemical Impedance Spectroscopy *(EIS)*
- Contact Angle

Chromatography
- Gel Permeation Chromatograph *(SEC)*
- High Performance Liquid Chromatograph
- Gas Chromatograph

Additional Physical/Chemical Testing
- High Pressure Autoclaves
- Microscope Analysis
- Immersion Testing
- Flow Loop Analysis

Product Development
- Lab Compounding Capabilities

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