

# IMPREGLO® 222M

## COATING FOR CORROSION & DEPOSITION CONTROL

### Introduction

IMPREGLO® 222M is a thin-film fluoropolymer coating designed to improve the performance of oil and gas production equipment by preventing corrosion and deposition. IMPREGLO® 222M offers superior chemical resistance, adhesion, and non-stick properties on tight-tolerance parts in critical applications and severe environments.

#### IMPREGLO® 222M reduces or eliminates the need for:

- Corrosion resistant alloys
- High-build coatings
- Chemical treatments
- Pre- or post-machining
- Liners



### Track Record

IMPREGLO® 222M has proven itself in severe service wells across Western Canada for over 10 years and has established itself as the industry standard for corrosion and deposition prevention. Impreglon Coatings, incorporated in 1974, is Western Canada's leading applicator of thin-build fluoropolymer coatings for the production segment of the petroleum industry.

### Typical Applications

- Downhole tools
- Production tubing
- ANSI valves
- Wellhead equipment

### Recommended Services

<b>Corrosion</b>	H <sub>2</sub> S, CO <sub>2</sub> , Chlorides
<b>Deposition</b>	Asphaltenes, Scales, Sulphur

### Physical Properties

<b>Thickness Range</b>	1.25 – 2.5 mils / 0.00125" – 0.0025" / 31.75 – 63.5 micron
<b>Maximum Operating Temperature</b>	430°F Continuous
<b>Salt Spray Test - ASTM B117</b>	1000+ hours @ 5% concentration
<b>Color</b>	Red

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## COATING FOR CORROSION

### Laboratory Testing

IMPREGLON® 222M was autoclave tested\* in a laboratory to determine its potential effectiveness as a corrosion resistant coating.

Autoclaves are pressurized vessels used to re-create downhole conditions. Using representative pressures, temperatures, and chemicals, autoclave tests are designed to accelerate corrosion and act as an initial screen, thereby minimizing the need for expensive downhole testing.

Following exposure in the autoclave, the coating is submitted to EIS\*\* testing. EIS (Electrochemical Impedance Spectroscopy) is a sensitive test for evaluating a coating's permeability to corrosive agents on an accelerated basis. Higher values indicate increased resistance to permeation. Ratings of 6.0 or greater are considered good to excellent.

\* Autoclave testing for IMPREGLON® 222M was conducted by an independent lab, Charter Coating Services Ltd. of Calgary, Alberta.

\*\* EIS testing was conducted by the Alberta Research Council Corrosion and Electrochemistry Laboratory.



### Test Parameters

**All tests were conducted under the following conditions:**

**Duration:** 96 hours

**Temperature:** 250°F

**Pressure:** 5,000 psi

**Gas:** 10% H<sub>2</sub>S, 10% CO<sub>2</sub>, 80% CH<sub>4</sub>

**Hydrocarbon:** Kerosene/Toluene @ 1:1 by volume

**Water:** 1% NaCl in distilled water for test mediums #1 and #2, 25% NaCl in distilled water for test medium #3

### Results

Test Medium	Pressure Release Time	Coating Thickness Tested @	Blister Rating ASTM D714	EIS Permeability Rating: Gas/HC/H <sub>2</sub> O
#1	3.5 Hours	1.3 mils 2.7 mils	None None	8.97 / 8.26 / 5.57 9.28 / 9.49 / 7.31
#2	22 Minutes	1.5 mils 3.1 mils	None None	9.35 / 9.07 / 8.01 9.57 / 9.29 / 9.50
#3	1 Hour	1.5 mils	None	7.62 / 9.71 / 9.76

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## COATING FOR DEPOSITION CONTROL

### Overview

IMPREGLON® 222M has proven to be effective in reducing, and in many cases eliminating, deposition in production and injection applications. The combination of a low coefficient of friction and low surface tension creates a surface that prevents the deposition of foreign materials.

In addition, IMPREGLON® 222M provides protection from the corrosion that is often present in deposition-prone wells and lines. The coating's low profile allows it to be used on standard dimension parts with minimal impact on finished tolerances.

### Track Record

IMPREGLON® 222M has proven itself in many challenging applications since its introduction in 1993 and has saved producers millions of dollars in downtime, part replacement, and chemical treatment costs.

### Typical Applications

- Production tubing
- ANSI valves
- Bottom hole reciprocating pumps

### Recommended Services

IMPREGLON® 222M has proven to be successful in reducing or eliminating the following types of deposition:

- Calcium carbonate
- Asphaltenes
- Barium sulfate
- Sulphur
- NORMS (Normally Occuring Radioactive Materials)



**NOTE:** The information presented is based on the research and understanding of Impreglon Coatings. For new, unproven applications, we recommend lab testing, followed by a field trial, in order to ensure your complete satisfaction. Impreglon Coatings is the registered owner of the IMPREGLON® trade name in Canada and the exclusive applicator of IMPREGLON® coatings.