

Technical Data Sheet

BTUF®-150

Product Description

BTUF®-150 is an excellent epoxy phenolic powder coating for OCTG and drill pipe internal coating application.

Recommended Use

BTUF®-150 can be used in high temperature and high pressure condition containing H₂S and CO₂ natural gas drilling environment. It has excellent anti-corrosion performance, effectively prevents pitting corrosion, and can be applied to various mud systems. It has excellent wear resistance. The coating will keep intact after repeated use, and will effectively improve fluidity, reduce pump pressure and reduce wear.

Material Properties

	Typical Value	Test Method
Color	green	
Density	1.6 ± 0.1	ISO8130-2
Gel time (200°C)	120-300s	ISO8130-6
Volatile content	≤ 0.5%	CAN/CSA 12.4
Shelf Life at 73°F (23°C)	12 months	
Glass transition temperature (T_{g2})	> 140°C	

Coating Properties

	Test Result	Test Method
Abrasion resistance (Taber) 1000g, 1000rpm, CS17 1000g, 5000rpm, CS17	< 30mg < 150mg	ASTM D 4060-07
Abrasion resistance (Shakeout)	2 ltr/um	ASTM D 968-05
Adhesion strength at 73°F (23°C)	> 4000psi/cm ²	ASTM D 4541-09
Flexibility at 73°F (23°C)	Pass 1.0° /PD	NACE RP0394-2002
Applicable pH scope	3—13	
Water absorption (90days) 73°F (23°C) 185°F (85°C)	4.0g/m ² , 3.6g/m ² ,	ASTM 570-98
Autoclave Test		
1. 148°C, 70MPa, pH=12.5,	16h, Coating in good condition, no change	NACE TM0185-2006

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| 2. 93°C, 14MPa, gas phase:
PH ₂ S=0.3MPa, PCO ₂ =1MPa,
CH ₄ , liquid phase: 5% NaCl | 48h, Coating in good condition, no change | NACE TM0185-2006 |
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Resistance to chemical media

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| 1. 90 days, 23±3°C, 10%HCl | Coating in good condition, no change | ASTM G20-10 |
| 2. 90 days, 23±3°C, 10%H ₂ SO ₄ | Coating in good condition, no change | ASTM G20-10 |
| 3. 90 days, 23±3°C, 6%HF | Coating in good condition, no change | ASTM G20-10 |
| 4. 90 days, 23±3°C, Gasoline | Coating in good condition, no change | ASTM G20-10 |
| 5. 90 days, 23±3°C, Toluene | Coating in good condition, no change | ASTM G20-10 |
| 6. 90 days, 23±3°C, 10% NaCl | Coating in good condition, no change | ASTM G20-10 |

Applicable Scope

Maximum working temperature	≤400°F (204°C)
Working pressure	Till pipe yield
Recommended dry film thickness	275~375μm
Main applicable scope	OCTG & Drill pipe (Anti-corrosion, wear-resistant, improve flow efficiency)
Main service condition	All drilling environments
Limited service condition	Operation temperature > 400°F (204°C)

Surface Preparation

- The surface to be coated shall be dry, clean and with no contamination. Heat cleaning can be adopted when necessary to remove the oxide skin, oil and grease.
- Sand blasted till Sa2.5 (ISO 8501-1:2007/SSPC-S10) . Surface profile shall be between 35-75um.

Application Condition

- Recommended application environment temperature shall be between 5°C~40°C, otherwise coating shall be re-evaluated to ensure the performance of the coating.
- Recommended application environment relative humidity shall be less than 85%, otherwise application shall not proceed until measures are taken to reduce the relative humidity.

Application Method

- Primer shall be applied with high speed rotary cup spraying;
- BTUF®-150 shall be applied with vacuum adsorption or venturi pump method.

Application Parameter

1. Primer shall be cured under 180°C~220°C for 45min-1h after application;
 2. Top coat shall be cured under 200°C~250°C for 1-1.5h.
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Storage Condition

Shall be stored in dry, shady and cool, draughty condition away from heat and fire source. The packaging container shall be kept alright. Shall strictly follow the instruction marked on packing when required to be stored under temperature lower than 25°C.

Handling

Handle with care. Operate as instructed on packing before use.

Packing

25kg carton package.

Packing can be different in different countries according to local requirement.

Health and Safety

Please observe the precautionary notices displayed on the container. Use under well ventilated conditions.

Date of Issue

2021, June 18th
