

Technical Data Sheet

TAFF® -837

Product Description

An excellent anti-corrosion novolac epoxy powder material designed for internal coating of line pipe, tubing and casing. Shall be applied with TAFF®-523 as primer. Applicable for all types of water injection wells or gathering pipelines, truck pipeline.

Recommended Use

TAFF®-837 is designed to be used in high temperature and high pressure pipeline, tubing and casing, down hole tools, which contains H₂S and CO₂. The material can effectively prevent pitting corrosion with its excellent anti-corrosion ability. Can be used in various kinds of production oil wells, high temperature and high pressure sweet/sour oil and gas well, water injection well, CO₂ secondary oil recovery. The material can also increase the flow efficiency, reduce corrosion and maintain an integrated coating.

Material Properties

	Test Result	Test Method
Color	Deep-green	
Density	1.5±0.1	ISO8130-2
Gel time (200°C)	120~150s	ISO8130-6
Volatile content	≤0.6%	CAN/CSA 12.4
Shelf Life at 73°F (23°C)	12 months	
Glass transition temperature	> 130°C	ASTM E1356
Particle Size	3% maximum powder retained on 150 micron mesh screen & 0.2% on 250 micron mesh screen	CSA Z245.20-10

Coating Properties

	Test Result	Test Method
Abrasion resistance (Taber)		
1000g, 1000rpm, CS17	≤30mg	ASTM D 4060-07
1000g, 5000rpm, CS17	≤120mg	
Abrasion resistance (Shakeout)	≥2 ltr/μm	ASTM D 968-05
Adhesion strength at 73°F(23°C)	≥4500psi/cm ²	ASTM D 4541-09
Flexibility at 73°F(23°C)	Pass 1.5°/PD	NACE RP0394-2002 Appendix H
Applicable pH scope	3—13	

Water absorption (90days)	ASTM 570-98
73°F (23°C)	≤4.0g/m ² ,
185°F (85°C)	≤3.6g/m ² ,

Autoclave Test

1. 148°C, 70MPa, pH=12.5,	16h, Coating in good condition, no change	NACE TM0185-2006
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

Resistance to chemical media

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	375~625μm
Main applicable scope	Production oil pipe, under/above well equipment and line pipe
Main service condition	High temperature and high pressure sweet/acid oil and gas well, water injection well, CO ₂ secondary oil recovery
Limited service condition	PH ₂ S ≥ 1.0MPa (150°C) , Operation temperature > 400°F (204°C)

Surface Preparation

1. 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.
2. Sand blasted till Sa2.5 (ISO 8501-1:2007/SSPC-S10) . Surface profile shall be between 35-75um.

Application Condition

1. Recommended application environment temperature shall be between 5°C~40°C, otherwise coating shall be re-evaluated to ensure the performance of the coating.
2. 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

1. Primer shall be applied with high speed rotary cup spraying;
 2. TAFF®-837 shall be applied with vacuum adsorption or venturi pump method.
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Application Parameter

1. Primer shall be cured under 180°C~220°C for 45min-1h after application;
 2. The surface temperature of items shall not be lower than 160°C during the Topcoat powder application ;
 3. 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 23°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

July 2nd , 2020