



**Jufusheng Energy  
Technology FZC**

**JFS-SOL** UV CURED GRP

# Mitigate Corrosion Under Insulation (CUI)



JFS-SOL materials are single component UV curing glass reinforced sheet laminates that contain high grade polyester and vinyl ester resins, chopped strand glass and fillers. Photo initiators are used as the mechanism for UV cure.

## JFS-SOL SYSTEMS PROTECT INSULATION AND MITIGATE CORROSION UNDER INSULATION (CUI)

It is a well-known fact that CUI costs the oil and gas industry \$ billions annually. CUI once apparent becomes very difficult to initially stop during plant operation. In the main, traditional steel cladding systems are restricted in their ability to prevent moisture penetration and easily suffer from mechanical damage. Once the cladding and insulation have been breached, moisture quickly enters the system and in cryogenic situations the moisture rapidly solidifies before it can escape. This icing build-up will continue to worsen until, ultimately, costly shutdowns are required.

With experience dating back many years, **JFS-SOL UV Curing GRP** laminate and resins have been extensively used as a non-metallic cladding in the protection of insulation and mitigation of problems associated with Corrosion Under Insulation (CUI) in the oil and gas industry, particularly in cryogenic conditions.

### JFS-SOL PE IP Insulation Protection

- Mitigates CUI in both thermal and cryogenic environments
- Low vapour permeability - preventing moisture ingress
- Totally seamless system
- Reduces Life Cycle Cost (LCC) and Mean Time Between Failure (MTBF)
- Class 1 Fire rating
- Ease of inspection through system by any traditional inspection methods
- Good impact and compressive strength
- High chemical resistance
- Significantly reduces application times and cost
- Meets International Insulation Standards (CINI)
- Reduces energy losses

JFS-SOL PE IP Product Data	Typical Values
<b>Material Thickness</b>	1.7 - 1.9 mm
<b>Tensile Strength</b>	54 M Pa
<b>Coeff. of Thermal Expansion</b>	$2.3 \times 10^{-5} \text{C}^{-1}$
<b>Impact Resistance</b>	62 kJ/m <sup>2</sup>
<b>Hardness</b>	>60 Barcol
<b>Compression Strength</b>	>200 M Pa
<b>Adhesion to Steel</b>	>14 M Pa
<b>Flexural Modulus</b>	9214 N/mm <sup>2</sup>
<b>Flash Point</b>	34°C
<b>Heat Resistance @ 100°C</b>	No deformation observed
<b>Volume Weight</b>	1.84 gms/cm <sup>3</sup>
<b>Flexural Strength</b>	130 N/mm <sup>2</sup>
<b>Heat Distortion Temperature</b>	>100°C
<b>Water Vapour Permeability (WVP)</b>	0.001 gms/m <sup>2</sup> /h/mm of mercury
<b>Water Vapour Transmission (WVT)</b>	0.023 gms/m <sup>2</sup> /h/mm
<b>Flame Spread Index</b>	20

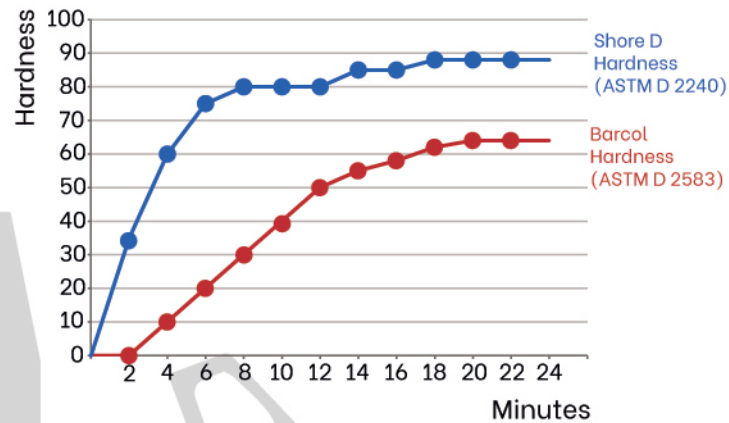
- **JFS-SOL VE GP** is single component sheet material developed to protect substrate from corrosion, impact, chemical attack and abrasion.

- **JFS-SOL Primecoat** is UV curing vinyl ester primer for use on substrates where priming is required prior to application of JFS-SOL Laminates.

- **JFS-SOL Sealcoat** is UV curing vinyl ester resin developed as a sealer for JFS-SOL Laminates for additional protection.

All JFS-SOL materials are cured by natural or artificial UV light. The cure time will vary with intensity of the UV source and the prevailing conditions.

**Hardness development against UV exposure**



JFS-SOL systems have not only been used as a non-metallic cladding. With outstanding adhesion to steel, concrete and other substrates, our UV cured systems have been used successfully to protect against corrosion, impact, abrasion and chemical attack on the following:

- Buried pipeline
- Pipe supports
- Risers
- Chemical storage tanks
- Field joints
- Containment areas
- Thrust boring
- Structural steel tank repairs



Although Corrosol benefits from ease of application, we also fully understand that the training of contractors and applicators is fundamental to success. Corrotech Construction Chemicals have therefore developed comprehensive training packages that can be provided both in our workshop and onsite. Our training packages are tailored to basic training, advanced and supervisor level. Our Technical Manager has over 20 years experience in the use of our systems and developed the training packages as a result. Our instruction and training packages are part of a service we are proud to provide.





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Meydan Grandstand,  
6th floor, Meydan Road,  
Nad Al Sheba,  
Dubai, U.A.E.

☎ +971 56 333 9091  
✉ info@jufusheng.ae

🌐 [www.jufusheng.ae](http://www.jufusheng.ae)