A double take on protection

Dual-layer FBE Coatings

Jotapipe | DL
Pipelines protected

Powder Coatings
A double take on protection

Fusion-Bonded Epoxy (FBE) coatings have been the backbone of pipeline protection since the early Sixties as stand-alone coatings and later as primers in 3-layer polyolefin (PO) coating systems.

With increasingly aggressive and varying environments, there is a continuous demand for pipeline coatings to provide enhanced performance. As a result, the traditional stand-alone FBE coating is evolving into a dual-layer and multi-functional coating system.

The solution is Jotapipe DL, a range of dual-layer FBE coatings formulated to deliver specific topcoat performance.

Key benefits

Reduced pipe damage
Thanks to its two FBE layers, Jotapipe DL* produces a tougher finish than stand-alone FBE coatings. Your pipeline systems have greater protection from external damage.

Industry compliance
Jotapipe DL meets the key FBE specifications, ensuring full compliance with industry standards.

Minimal plant modification
Very little modification is required to apply Jotapipe DL. This minimises additional costs and time delays.

Proven success stories
For over 12 years, the Jotapipe DL range has successfully protected major pipeline systems all over the world.

Other benefits include:
- Operating temperature performance up to 100°C (212°F)
- Ease of application
- Verifiable quality assurance/quality control

* Jotapipe DL 3002
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Jotafinish dual-layer FBE systems comprise an anti-corrosion primary coating, over which a topcoat of Jotapipe DL is immediately applied. It is the topcoat that delivers the additional features that pipeline owners now require, resulting in overall enhanced system performance.

**How it works**

At times, you may require extra grip, especially when constructing subsea pipelines. Jotapipe DL 3001 is a rough coat designed to provide a textured surface. The anti-slip nature of the rough coat considerably improves the adhesion of the concrete weight coat to the anti-corrosion primary coating.

**Jotapipe DL 3002**

When a pipeline trench is backfilled, the FBE coating can be exposed to countless impacts from falling stones and rocks that can damage the anti-corrosion coating. Testing to the latest industry standards has shown that when you use Jotapipe DL 3002, impact damage to the anti-corrosion coating is significantly reduced.

The abrasion and gouge resistance of Jotapipe DL 3002 provides an exterior shield that protects the anti-corrosion base layer of FBE from damage also caused by directional drilling and dragging of pipes in the field or on the right of way.

**Jotapipe DL 3003**

Pipeline project delays and overstocking can lead to FBE-coated pipes being left in coating yards or near pipe laying sites for extended periods of time. Weathering can impact the effectiveness of FBE coatings. In particular, solar radiation causes degradation of the epoxy binder surface, causing the FBE to ‘chalk’. This process can result in a reduction of FBE coating thickness by up to 40 μm per year. Jotun Powder Coatings has used its innovation and experience to develop Jotapipe DL 3003, which provides exceptional weathering resistance. This protection maintains and extends the life of the primary anti-corrosion FBE layer, allowing pipes to be used after prolonged periods of storage.

Jotapipe DL technology is backed by over 40 years of architectural coating experience and exposure to varying and harsh environments. When compared to standard FBE coatings after weathering, the performance of Jotapipe DL 3003 is impressive.

**Jotapipe DL 3001**

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An eco-friendly solution

Every time you use Jotun products, you can rest assured that you are working towards a greener, more sustainable future. Being environmentally friendly, our powder coatings do not contain solvents, so no Volatile Organic Compounds (VOCs) are released into the air. Oversprayed powder can be recycled with minimal wastage, and disposal is easy and safe. In addition, all Jotun Powder Coatings’ products are lead-free.

About Jotun

Jotun is one of the world’s leading manufacturers of decorative paints, marine, protective and powder coatings. The group has 74 companies and 39 production facilities on all continents. Jotun products are available in 90 countries through own subsidiaries, joint ventures, agents, branch offices and distributors. At Jotun Powder Coatings, we are committed to develop, produce and deliver solutions that create value through consistency in application, enhanced appearance and superior durability.

A partner you can trust

Jotun Powder Coatings is here to partner with you and meet your specific project needs. We deliver more than just products - we bring you our unique Pipeline Concept. With the entire process in mind, we provide a comprehensive portfolio of coating solutions for the most demanding global environments. This is supported by our strong supply chain and a team that is ready to help you with any technical support you require 24/7, 365 days a year.

With an unbeatable range of products, a dedicated point of contact, and training and education facilities, the Pipeline Concept from Jotun Powder Coatings is the only pipe coating solution you need.
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Stay in touch

Please contact us for more information on our product range. We offer company training on our product portfolio and powder coating technology through a number of powder schools that we run for selective customers. Feel free to contact your local sales representative for more information.
Working with someone you can trust is essential in the industry and we back that up with a proven track record of over 40 years protecting more than 130,000 km of pipelines.

The Jotapipe DL range is used by major oil and gas companies including ExxonMobil, Chevron, NGC, IOCL and Esso.

## Outstanding track record

Typical projects featuring **Jotapipe DL**

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Country</th>
<th>Jotun Product</th>
<th>Length</th>
<th>Dia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gorgon Upstream Pipeline</td>
<td>Australia</td>
<td>Jotapipe DL 3001</td>
<td>50 km</td>
<td>6-34 in</td>
</tr>
<tr>
<td>QGII Offshore Pipeline</td>
<td>Qatar</td>
<td>Jotapipe DL 3001</td>
<td>180 km</td>
<td>16-38 in</td>
</tr>
<tr>
<td>PNG LNG Offshore Pipeline</td>
<td>Papua New Guinea</td>
<td>Jotapipe DL 3001</td>
<td>414 km</td>
<td>36 in</td>
</tr>
<tr>
<td>Ras Laffan Offshore Pipeline</td>
<td>Qatar</td>
<td>Jotapipe DL 3001</td>
<td>97 km</td>
<td>32 in</td>
</tr>
<tr>
<td>Salaya Mathura Pipeline</td>
<td>India</td>
<td>Jotapipe DL 3002</td>
<td>900 km</td>
<td>18-24 in</td>
</tr>
<tr>
<td>Amod Hazira Pipeline</td>
<td>India</td>
<td>Jotapipe DL 3002</td>
<td>50 km</td>
<td>12 in</td>
</tr>
<tr>
<td>Adriatic LNG Pipeline</td>
<td>Italy</td>
<td>Jotapipe DL 3002</td>
<td>6 km</td>
<td>32 in</td>
</tr>
<tr>
<td>Cross Island Pipeline (Phases 1-3)</td>
<td>Trinidad &amp; Tobago</td>
<td>Jotapipe DL 3002</td>
<td>76 km</td>
<td>56 in</td>
</tr>
<tr>
<td>Newmont Mining Fuel Line</td>
<td>Indonesia</td>
<td>Jotapipe DL 3002/3</td>
<td>25 km</td>
<td>6 in</td>
</tr>
</tbody>
</table>

Please visit our website [www.jotun.com](http://www.jotun.com) for more information.
The Jotapipe DL range includes:

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Main Feature</th>
<th>Coating Description</th>
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<tbody>
<tr>
<td>Jotapipe DL 3001</td>
<td>Anti-slip</td>
<td>Rough coat designed to improve adhesion between Jotun FBE coatings and concrete weight coat.</td>
</tr>
<tr>
<td>Jotapipe DL 3002</td>
<td>Abrasion resistance</td>
<td>Abrasion-Resistant Overcoat (ARO) designed to protect Jotun FBE coatings from mechanical damage during handling, backfilling, directional drilling and general operation.</td>
</tr>
<tr>
<td>Jotapipe DL 3003</td>
<td>UV resistance</td>
<td>Topcoat designed to protect Jotun FBE coatings against degradation from solar radiation and exposure to harsh weathering environments.</td>
</tr>
</tbody>
</table>