



# JOTUN

## Maintenance for Oil, Gas and Chemical Operators



# A global provider of coatings



Jotun is one of the world's leading manufacturers of paints, coatings and powder coatings.

We have 71 companies and 36 production facilities on all continents, and are represented in more than 90 countries with our network of agents, branch offices, distributors and sales offices around the world.

Our operations cover development, production, marketing, R&D and sales of paints and coatings to protect and decorate surfaces in residential, shipping and industrial markets.

Jotun is organised in four segments and seven geographical regions with its head office located in Sandefjord, Norway.

## MARINE COATINGS

As the world's leading provider of marine coatings we supply to ship owners, management companies and others for both newbuilding and dry-dock.

## PROTECTIVE COATINGS

Our protective coatings are protecting assets in industries such as offshore, energy, infrastructure and hydrocarbon processing.

## POWDER COATINGS

Our powder coatings are supplied to manufacturers of appliances, furniture, building components, pipelines and general industries.

## DECORATIVE PAINTS

Our interior and exterior paints are being used by consumers and professionals worldwide, for protection and decoration.

## UNIFORM STANDARD ACROSS THE GLOBE

- Easy to exchange trained technical personnel across national borders and multi-national projects.
- Compulsory training for all technical and sales personnel in marine and protective segments. Most of our coating advisors and technical personnel have FROSIO and/or NACE certification.
- Same competence in maintaining company standard procedures globally.



## Jotun GreenSteps

### FOR A MORE COLOURFUL WORLD, WE ALL NEED TO BE A LITTLE GREENER

Jotun recognises the responsibility it has to the environment and has established its own GreenSteps programme.

Through the GreenSteps programme we address market demand for more sustainable coatings solutions



# Maintenance – the challenge for operations



*Rarely is 'maintenance' for coatings and paints alone. However it is an opportunity to tackle corrosion issues and then paint afterwards*

Maintenance will be carried out during a complete shutdown, partial shutdown, equipment shutdown or live online. The reasons for shutdown will be many and varied, from filter blockage, valve renewal to equipment modification.

Rarely is 'maintenance' for coatings and paints alone. However it is an opportunity to tackle corrosion issues and then paint afterwards. Sometimes corrosion can be the result of failing coatings, incorrect specifications or simply aged coatings. They can be the root cause of maintenance needs but may be perceived as routine rather than preventative.

Coatings will often be the last process prior to going back into service and thus be blamed for delaying start up. Painting may then be reduced in order to speed up the process. This will most likely result in a shorter life of the paint system and lead to the necessity to repeat the job later in the plant's life.

At Jotun we work alongside our clients to help achieve better preparation and prevent corrosion issues from causing health, safety or financial consequences.



# Corrosion

*Corrosion is a constant enemy – where we can see it we can deal with it. Where it is hidden nasty surprises can await!*

In the industrial atmosphere of an operating plant we can expect to have extreme conditions when it comes to corrosion. There will be localised pollution – when it rains the pollution is dissolved into products that often accelerate the corrosion effect.

We all know that water will manage to penetrate where it is designed not to, and thus corrosion will start. The speed at which corrosion occurs depends upon many factors but the truth is once started then the process has a domino effect and accelerates.





# The cost of corrosion



*Painting is the time limiting factor before going back into service – the faster this can be completed, the quicker the site can be operational again*

It is easy to assume that the cost of corrosion is the cost of preparing and painting steel or, in the worst case, replacing it.

However that is only the tip of the iceberg. In operations the challenge is to achieve maximum efficiency – keeping production at its highest level without losing time through unnecessary shutdowns or stoppages.

Paint and coatings can be both a benefit and, when incorrectly managed, a major hassle. Incorrect or poorly used coatings can lead to filter blockages or allow corrosion to occur. This may add to time out of service that could have been avoided.

The painting process itself will often be the last part of a programmed shutdown as there can be a risk of contamination. Thus painting is the time limiting factor before going back into service. The faster this can be completed the quicker the site can be operational again.



# The purpose of coating maintenance



## *The cheapest and most effective method for the prevention of corrosion on plant*

Coating maintenance is the cheapest and most effective method for the prevention of corrosion on plant. Because corrosion is often the cause of system failures, it is essential to halt its progress. If coating is undertaken in the form of programmed maintenance then the time expended and the consequences to the plant are reduced.

Some operators are so aware of the huge penalty of production stoppage that they do not limit the budget for this maintenance work – after all the whole painting process costs less than a single day of lost earnings.

## *Areas of concern*



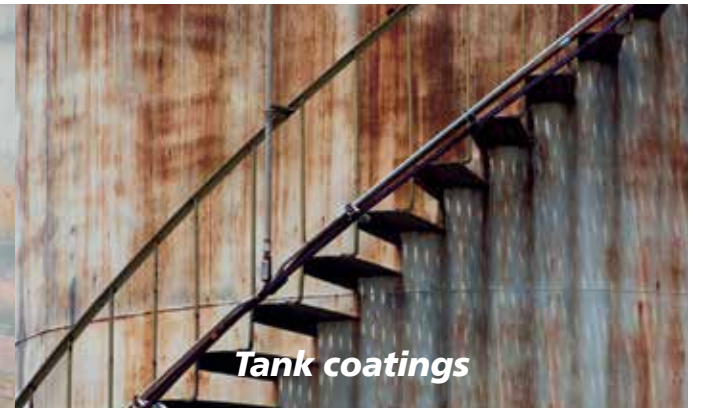
**General steelwork**

General steelwork such as pipe racks, tanks external and supports etc., may not be exposed to the most aggressive environments. However they are often complicated designs, trapping moisture, difficult to inspect and even harder to paint.



**Corrosion under insulation**

Corrosion under insulation together with corrosion under fire protection are the most serious areas of concern for a plant operator. Because they cannot be seen, the risk of incident grows but not necessarily awareness. Regular inspection and attention is vital.



**Tank coatings**

Tank coatings are the life blood of a chemical operation and quality coatings and good maintenance are essential in order to maintain operational efficiency. It is also a good idea to utilise coatings that provide the most options to meet changing needs for storage – future proofing.



# Here's how Jotun can help

*JAMP (Jotun Asset Management Programme) strengthens Jotun's ability to provide economical, lasting solutions to plant protection*



## **JAMP:**

- Establishes the condition of the site
- Allows client and Jotun to function as a team
- Supports preparation of a specialised maintenance programme providing long term cost effective corrosion protection coating systems
- Considers issues related to planned maintenance of an asset in operation or at shutdown
- Recommends coating systems with all relevant issues and challenges in mind

The end result of a JAMP survey is a maintenance programme specialised for your asset only that takes into consideration all of the issues related to planned maintenance of a facility in operation or at shutdown i.e. location, local weather conditions, site access, practical preparation problems etc.

It will tell which areas are crucial and need to be fixed immediately (<4 months), what maintenance needs to be carried out within one year and what can be left in the current condition until next inspection.

In the end you will have a dedicated maintenance programme that incorporates both standards and coating systems that will work within the constraints of the facility and a suitable timetable of priority to perform the required maintenance schedule.

# Our key maintenance brands

## **Baltoflake**

Baltoflake is Jotun's range of glassflake reinforced polyester coatings – outperforming traditional protection. The Baltoflake brand represents extremely abrasion resistant and fast curing anticorrosive coatings, ideal for splash zones and immersed areas. More than 30 years proven track record on offshore installations in the North Sea.

## **Marathon**

The Marathon range offers high build solutions with excellent abrasion resistance, making them well suited for high wear and tear areas. Included in the range is Marathon 500 which is ideally suited to tidal zones on jetties as it cures underwater allowing practical maintenance.

## **Hardtop**

Hardtop is a range of two component topcoats to be used as the final coat in an anticorrosive system – delivering properties like gloss retention, colour flexibility and chemical resistance. Whatever demand you have for a topcoat you will find it in the Hardtop range.

## **Solvalitt**

Solvalitt is a range of heat resistant coatings for use in a variety of atmospheric conditions. Covering a wide range of temperature areas, the choice of Solvalitt product is dependent on the level of heat resistance required.

## **Chemflake**

Chemflake is Jotun's range of easy to apply, fast curing and long lasting barrier coatings for storage tank internals. These products are designed to deliver major reductions in application time with faster curing, as well as being long lasting and versatile.

## **Jotatemp**

Jotatemp 650 is a surface tolerant heat resistant coating providing a corrosion barrier when used to protect steelwork beneath thermal insulation (CUI) in areas with wet and dry cyclic conditions, including thermal shock. Especially suitable for maintenance of insulated and un-insulated steel in highly corrosive environments.

## **Jotamastic**

Jotamastic is the market's first choice for long lasting protection on aged steel and surfaces without optimal preparation, thus saving time and money during the maintenance process. The Jotamastic brand has more than 25 years proven track record in the harshest environments.

## **Tankguard**

Jotun's Tankguard products have been specifically developed to protect chemicals inside tanks from contamination in addition to preventing corrosion of the tank itself. The range covers products that are resistant to a wide range of chemicals and cargoes.





# Marine and protective coatings offices worldwide

Legal notice withdrawn should be noted for details of branch offices and other representative in countries not listed, please visit [jotun.com](http://jotun.com)

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