



JOTUN

Tank Linings for Industry



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



Tank linings delivering lasting protection in 3 key areas



Tank internals



Tank internals present a unique challenge for protective coatings. Not only must the fabric of the tank itself be protected but contamination of the product being stored must be avoided. To meet these requirements, tank lining products must combine exceptional anticorrosive performance with effective chemical resistance.

To ensure compatibility between the tank lining and the product stored, it is essential that the chemical resistance list is consulted prior to specification.

Bunds & containment



Bunds and other forms of secondary containment are used as a second line of defence against hazards and spills.

Sand or soil may be used where tanks are built below ground level. For above ground tanks, bunds usually constructed from concrete or brick, make containment of spills and disposal of contaminated material easier. Concrete and brick bunds will require a protective coating and a vinyl ester with glass flakes makes a stable lining in this type of a tank-in-tank situation.

Spillage areas



There is an ever present risk of spillages occurring in areas close to tanks and in charging/discharging areas.

To prevent corrosion, tank linings are often used as a finish coat combined with anticorrosive primers underneath. These make cleaning after spillages easier and also ensure the coating system will be effective for longer.

Understanding and meeting the demands of 5 key challenges



1. Long-term storage

Land storage tanks are often required to store products over very long periods of time. The incorrect choice of tank lining may lead to a softening or even failure of the coating. Even if the stored products are changed, they will usually be within the same family group. The correct initial choice of lining will allow the downtime between products to be minimised.

2. Chemical resistance

The choice of lining system is often dictated by chemical resistance to the stored product. To assist in selecting the correct lining, Jotun provides easy to use product resistance list tools covering all typical requirements.

3. Temperature

Some chemicals must be stored at higher temperatures. Most notably, unconventional oils where temperatures may exceed 140°C.

4. Maintenance

Unlike tanks in plants where maintenance can be planned and out-of-service time is not critical, tank farms generate revenue directly from tanks being in service. It is therefore essential that the lining supplied is not only compatible with the product stored, but that it also meets the commercial requirement of downtime being minimised.

5. Special requirements

In some markets there are specific restrictions and legislation that must be considered when specifying a lining system. An example is conductive coatings for petroleum storage tanks where the risk of build up of static can be dissipated by the correct choice of coating.



Jotun Chemical Resistance App available

Steel or concrete – new or old. Understanding the issues



Common challenges experienced in different industry sectors

The challenges facing tank linings vary greatly between industries from ranges of chemicals stored to variations in temperature. However, what remain constant are time and accessibility. As tanks are a source of revenue, it is not desirable to take them out of service for programmed maintenance. A coating system with extended lifetime creates a great economic advantage.

Future proofing

Typical lifetime expectancy for a tank lining is in excess of 10 years. Over the life of the system many external influences may change and predicting the future is very difficult. However, it is possible to identify trends such as the increasing temperature of crude oil.

Surface preparation

The preferred surface preparation for tank linings prior to relining is blast cleaning as this is the best method of creating an anchor pattern and it is easier to control than other pre-treatment methods. However, other methods may be suitable, for example replacing grit blasting with water blasting. We recommend consultation with Jotun's technical advisers.

Repair versus full refurbishment

Traditionally tanks are fully refurbished at programmed predefined intervals. However, if correct preparation and application procedures are followed, minor maintenance can be carried out without recoating the whole tank.

Holding primer

When coating large steel tanks a holding primer is often required in order to protect the freshly blast cleaned steel during paint application. The holding primer should be compatible with the tank lining system and become an integral part of the total coating system.

Touch up

For small repairs and touch up, application is often carried out by brush and 20 litre tins of paint are often too large. This process can be improved by using products specifically designed and formulated for this task.

'Tank in tank'

Refurbishment of older steel tanks can be a challenge using a paint-only system. The solution can be to use a coating in combination with a glass fibre mat. This strengthens the total system, effectively providing an epoxy tank inside the old wasted steel tank.

Different solutions and tailored systems for the protection of your specific investment



PRODUCT TYPES/RANGES

The Jotun product range includes coatings suitable for the protection of tanks containing all types of chemicals developed to fit a variety of different requirements. Jotun has solutions for any application at a wide temperature range including storage of drinking water, solvents, petrochemical products, crude oils and a variety of other substances. A number of special products are also available such as conductive coatings and chemically resistant holding primer, compatible with the toughest lining systems.

The Tankguard range consists of standard epoxies, novolac epoxies and zinc silicates and covers the majority of chemicals and solvents even at high temperatures.

The Chemflake range consists of glass flake reinforced vinyl esters and is ideal in the toughest environments.

The Chemtech range has been developed for use in combination with glass fibre mats – typically used for refurbishment of old steel tanks.

A selection of our main tank lining products

Tankguard | PLUS

Tankguard Plus is a specially designed novolac epoxy tank lining. It delivers outstanding chemical resistance at high temperatures and has excellent resistance to sour crude oils up to 160°C.

Tankguard | STORAGE

Tankguard Storage is a versatile novolac epoxy coating tank lining for long term storage of chemicals with excellent chemical resistance.

Tankguard | SF

Tankguard SF – solvent free novolac epoxy tank lining – with excellent chemical resistance to a wide range of chemicals and solvents. It can be applied in film thickness as low as 150µm and up to 500µm.

Chemflake | SPECIAL

Chemflake Special is a glass flake reinforced unsaturated vinyl ester coating. It is an ultra-high build, extremely chemical resistant, fast curing barrier coating with high acid resistance.

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Legal Jotun entities world wide are listed. For details of Branch offices and Jotun representation in countries not listed, please visit jotun.com

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Jotun Protects Property