

# Jotamastic

# The premium range of surface tolerant anticorrosive primers



# Jotun Protects Property



Offices in 67 countries

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40 production facilities globally



Over 5,000 employees



Worldwide service and support

www.jotun.com

# The Jotamastic Range

Tailor-made maintenance solutions for Industry, Marine and Offshore

In an ideal world time, money and convenience would allow all steel substrates at maintenance to be prepared to Sa 2½.

The reality is that down time is costly, budgets may be tight and structures are complicated with difficult to reach areas. These and other restraints can mean blast cleaning is not an option.

Jotamastic products have been designed to meet these challenges.

Jotamastic is a range of surface tolerant hydrocarbon penetrating epoxy mastics providing tough anticorrosive protection of steel in varying applications and user situations.

Jotamastic coatings offer high corrosion protection on surfaces with a low standard of preparation, which other epoxy primers cannot achieve.

Introduced more than 20 years ago Jotamastic has demonstrated consistent growth and success and is established as the world's leading epoxy mastic primer brand.

The extensive range of Jotamastic coatings has been developed to provide a variety of individual solutions to maintenance. Each product is designed to offer specific benefits and as a result a Jotamastic anticorrosive system can be tailor-made to meet specific requirements for exposure and lifetime expectations.







# All corrosive environments Industry, Marine, Offshore

Jotamastic has been used to protect more than 800 million square metres of steel in all environments - cold, heat, wind, rain, sand, salt and chemical laden - whatever nature or man can provide.



For marine

For industry

For offshore

# Low surface preparation Apply on any sound substrate

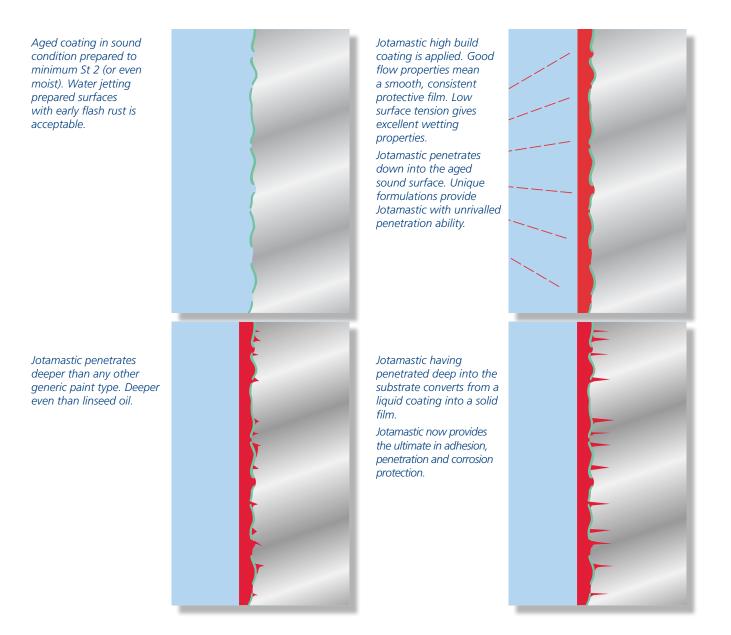
Jotamastic products excel when applied on clean and sound surfaces prepared to minimum St 2. When surface preparation standard is low, this reduces preparation time, down time and cost. Where surfaces are prepared by water jetting, Jotamastic can even be applied on early flash rust.



Apply to hand tool, power tool or water jetting prepared surfaces

# High surface tolerance Jotamastic is simply the best

Jotamastic products have high surface tolerance. Compared to other modified epoxies they penetrate deeper into the substrate, adhesion is superior and they are moisture tolerant. They can be applied faster and more easily on less well prepared surfaces delivering real savings in time and money.



# Good moisture tolerance Protect difficult to reach areas

Jotamastic products can be applied on areas that may appear to be dry but where moisture remains and flash rusting has begun. The hydrocarbon resin in Jotamastic enhances the moisture resistant properties and the superior barrier effect thus minimises permeability.

# Low Life Cycle Cost Achieve long term financial benefits

Investment in corrosion protection is about calculating the costs over the design life of the project – Life Cycle Cost analysis (LCC) – the investment in new construction today and maintenance in the future.

There are many different factors to be considered when choosing a protective paint system:

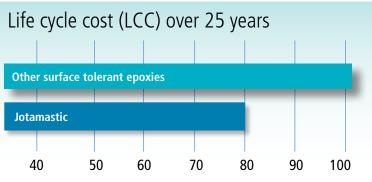
- The cost per square metre at maintenance is higher than at new construction.
- Different coatings have different lifetimes.
- The longer the lifetime of a coating the greater potential for savings.



It is false economy to calculate only the cost per square metre of the paint. It is essential to take all other costs into account – surface preparation, application costs, material costs and other costs – for the lifetime of the structure.

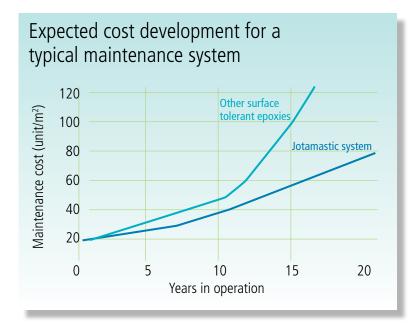
LCC analyses prove that specifying a Jotamastic based system produces substantial financial advantages.





### Net present value cost index\*

\* Net present value takes into account factors such as inflation over the chosen period of time



# Wide product choice Real savings and tailor-made protection

With a wide range of Jotamastic products, each with its own individual benefits, cost saving, time-saving protection can be tailor-made to meet every need.

# Save on surface preparation

- St 2 on a clean and sound surface
- · Less down time required
- Lower labour and equipment costs

# Save on paint volume

- High volume solids means fewer coats
- Less paint, lower application costs

# Save the environment

- VOC emissions are low less environmental impact
- · Less surface preparation, less waste
- Less paint, less environmental impact and longer maintenance intervals

# Save on recoating

- Up to 40% faster recoating time
- Less down time, lower cost

# Save time

- Jotamastic cures faster at high temperatures
- Wintergrade versions cure down to -5°C
- Fast surface preparation and application time

# Save on application

- Easy to apply by airless spray, roller or brush
- · Protects difficult to reach areas fast, even when moist
- · Shorter application times mean less cost, less down time
- Apply from -5°C to 40°C

# Save on upgrades

- No need to remove old coating if it is clean and sound and has the correct surface roughness
- · Substantial saving in time, work and money
- · Lower surface preparation costs
- No sealer coat required
- Less paint, less down time

# **Jotamastic 87**

For the most severe environments. The toughest protection and the longest lifetime. Up to 300 microns in a single coat.

# **Jotamastic 80**

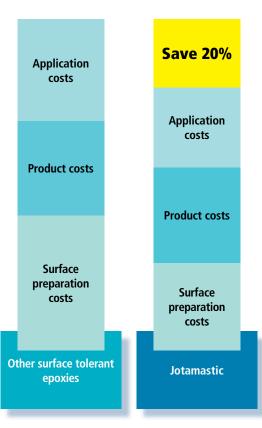
For shorter lifetime in harsh environments or longer life in less severe environments. Same tough protection.

# **Jotamastic Plus**

A speciality product with a single curing agent allowing application across a wide temperature range and when speed of drying is a priority.

# **Jotamastic Smart Pack**

Doubles corrosion protection by brush or roller. Provides optimum protection.



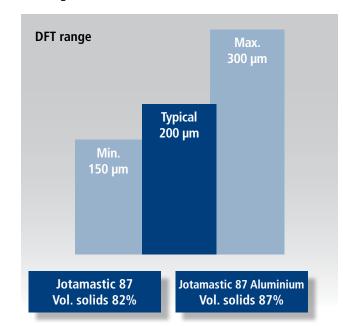
# Main products Tailor-make your corrosion protection

- The high build products in the Jotamastic range reduce surface preparation time and costs as they can be applied on St 2 prepared surfaces depending upon position and exposure and providing that the surface is clean and sound.
- · Faster surface preparation enables Jotamastic to be applied sooner - this means less down time especially when painting difficult to reach areas.
- · Jotamastic can be used over most generic types of coatings - saving preparation costs, saving on sealer coats, saving time and money.
- With application by airless spray, brush or roller even the most difficult to reach areas can be protected fast - no blast cleaning is necessary. Shorter application time, less cost, no compromise in protection.
- · Applicators prefer Jotamastic, it does not contain isocyanates and is low on solvents, VOC emissions are low and therefore there is less impact on the environment.



### **Jotamastic 87**

For the most severe environments and the longest lifetime



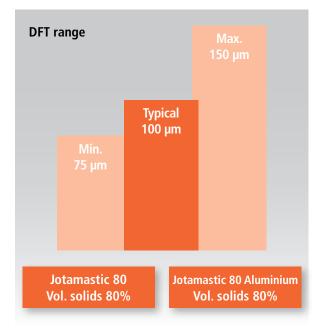
- Jotamastic 87 has a track record of success more than 20 years as the leader in advanced epoxy mastic technology.
- Jotamastic 87 has proven to be the first choice for lasting protection in the most severe environments.
- The high volume solids (82-87%) allows application up to 300 microns dry film thickness in a single coat - this means exceptional protection with fewer coats and greatly reduced application costs.

### Jotamastic 87 reference

"It has always been our objective to save cost, in terms of maintenance time, and yet achieve a better paint maintenance system for our vessels. The upgrading of our maintenance system, which includes Jotamastic 87, has being implemented successfully with the significant assistance from Jotun's technical service personnel. To date, our ship officers are very satisfied with the excellent performance of the paint systems. Best Regards Florence Ang Pacific International Lines (Pte) Ltd

### **Jotamastic 80**

For lower DFTs in less severe exposures or for shorter lifetime demands in severe environments

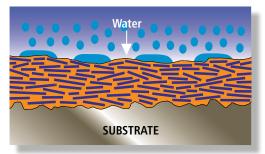


- Jotamastic 80 provides all the benefits of Jotamastic 87 and the same excellent protection but at lower dry film thicknesses.
- Jotamastic 80, with its high volume solids (80%), has been designed to be applied from 75 to 150 microns in a single coat.
- Jotamastic 80 is built on the same technology platform as Jotamastic 87, utilising an unrivalled track record of success to widen the opportunities to tailor-make Jotamastic protection to specific needs.

# Jotamastic 87 Aluminium Jotamastic 80 Aluminium

Aluminium flakes provide extra protection in extreme environments

- Jotamastic 87 Aluminium and Jotamastic 80 Aluminium are designed for environments where extreme protection is required.
- Aluminium flakes within the coatings create an impenetrable barrier to water and increased coating flexibility. The epoxy binds the coating together to give it considerable strength particularly when applied to vulnerable areas.
- These products are suitable where surface preparation is not ideal and good lasting protection is required against extreme atmospheric conditions.
- Jotamastic 87 Aluminium and Jotamastic 80 Aluminium have exceptional water resistance and are particularly suitable for submerged areas.



Flake formed aluminium pigments make it more difficult for moisture to reach the steel as the distance becomes longer



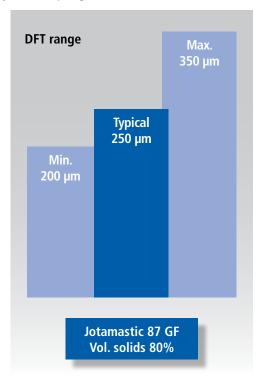
# Jotamastic 87 reference

The Delta Project in The Netherlands keeps the sea at bay in a country where large areas lie below sea level. A number of paint manufacturers' systems were tested under extreme conditions. Only two systems passed these tests. The Jotun system was chosen, exceptional tolerance and ease of application being just two of the reasons. Main coating system: Jotamastic 87 Aluminium and Hardtop HB

# Jotamastic 87 GF

Where the corrosion prevention benefits of Jotamastic are required for areas subject to hard wear and tear

- Jotamastic 87 GF is a unique surface tolerant glass flake containing abrasion resistant coating. It provides the same benefits as Jotamastic 87 plus the hard-wearing resistance of glass flakes.
- Jotamastic 87 GF is specially suitable for surfaces exposed to considerable wear and tear such as high traffic areas and where the primary benefits of Jotamastic 87 are required.
- Glass flakes within the coating overlap, blend and bind together to provide a tough, virtually impermeable film.

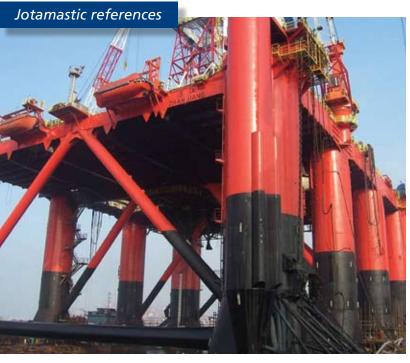


- In high traffic areas where speed of maintenance is usually essential, Jotamastic 87 GF provides the solution. It can be applied up to 350 microns in a single coat directly to St 2 prepared surfaces, saving time when it counts.
- Jotamastic 87 GF provides all the time and cost saving benefits of Jotamastic 87: low standards of preparation, ease of application, fast re-coating intervals. High build minimises the number of coats required keeping down time to a minimum whilst maximising protection.

# **Jotamastic Plus**

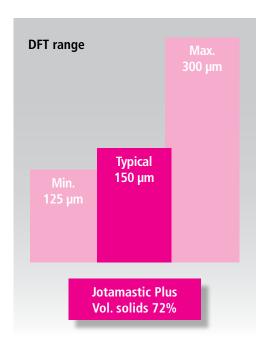
For extreme corrosion protection. Where fast Proven in the North Sea environment

- An excellent alternative to Jotamastic 87 when speed of drying is a priority.
- The single curing agent allows drying over a wide temperature range.
- It can be used all year round, even at low temperatures (0°C to 40°C).
- The aluminium flakes strengthen the coating to provide an impenetrable barrier which ensures that the substrate surface is securely sealed.
- High volume solids (72%) allows application between 125 and 300 microns in a single coat.



Above: Nanhai 2 semi-submersible rig Drydocked at YouLian Shipyard in China and was protected with Jotamastic GF and a topcoat of Hardtop AS.

Right top: Veslefrikk A & B (Statoil) Right bottom: Åsgard A (Statoil) In the North Sea Jotamastic Plus has a track record of success as a part of highly effective long lasting NORSOK pre-qualified systems. drying speed is required.







# Jotamastic Smart Pack

Simply better corrosion protection when using brush and roller

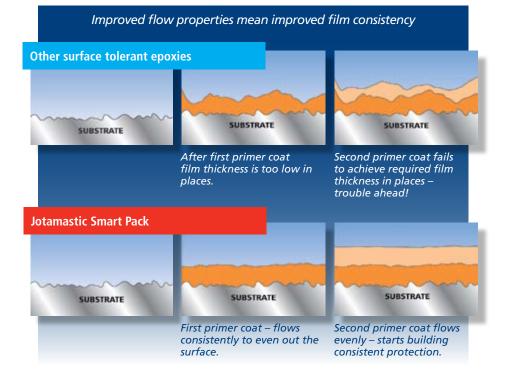
- Doubles protection with brush and roller.
- Improved flow properties mean a smoother, better protective film.
- Simple to mix 1:1.
- Two 5 litre tins.
- Mix what you need wastage reduced by 60%+.
- Easy to follow visual mixing instructions on both lids.
- Easy to handle, less storage space, reduced inventory, less waste handling.
- Fast recoating from 0°C to 40°C.



A competitor's epoxy primer. The thickness of the paint is uneven due to its poor flow characteristics. As a consequence the recommended film thickness may not have been achieved in the 'valleys' between the brush marks.



Brush application of Jotamastic Smart Pack clearly illustrates the smooth consistent paint film achieved – ensuring the recommended film thickness.

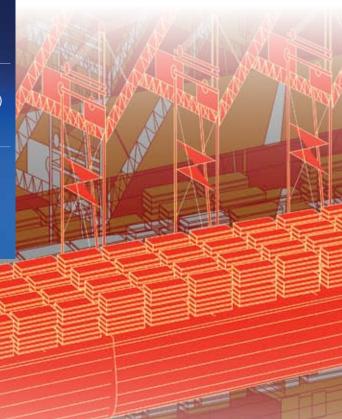


# Jotamastic for Marine Typical tailor-made maintenance solutions

DECKS Decks – airless spray application Typical systems Longer expected repair intervals: for dry dock 1 x 150 µm Jotamastic 87 Aluminium 1 x 150 µm Jotamastic 87 1 x 60 µm Hardtop XP Shorter expected repair intervals: 1 x 100 µm Jotamastic 80 1 x 60 µm Hardtop XP Typical system 1 x 100 µm Jotamastic 80 for on-board 1 x 60 µm Hardtop XP maintenance **Decks – brush and roller application** 1-2 coats Jotamastic Smart Pack (touch up) Typical system for on-board 1 x 60 µm Hardtop XP maintenance

### Decks – airless spray application and brush touch up

Typical system for dry dock and on-board maintenance 1 coat Jotamastic Smart Pack (touch up) 1 x 100 μm Jotamastic 80 1 x 60 μm Hardtop XP



# CARGO HOLDS

N-N-N

#### Cargo holds – airless spray application

| Typical system | 2 x 125 µm | Jotamastic 80 |
|----------------|------------|---------------|
|----------------|------------|---------------|

#### Cargo holds – combined brush and airless spray application

Typical system 1 coat Jotamastic Smart Pack (touch up) 1 x 125 µm Jotamastic 80

Cargo holds – only cosmetic coat on top of full paint system

Typical system 1 x 75 µm Jotamastic 80

# Marine references

One of our customers in Greece, Nereus Shipping states the following: "We have used Jotamastic on a number of our vessels for the past 15 years. Our satisfaction is such that we do not want any other primers on our vessels".



The vessel shown dates from the mid 1980s and is still in very good condition.





This deck was in poor condition. After water jetting to remove rust and dirt, spot blasting where necessary and high pressure washing with fresh water, Jotamastic 87 and Penguard Topcoat were applied. The management



company said "Some of the work was carried out at sea in less than ideal conditions, but despite this the coating has stood up well with the only areas of breakdown being due to mechanical damage."



The cargo holds of this bulk vessel are upgraded with two coats of Jotamastic 87 grey.

# **SUPERSTRUCTURE**

#### Superstructure – airless spray application

| Typical systems for dry dock | 1 x 150 μm Jotamastic 87 Aluminium<br>1 x 150 μm Jotamastic 87<br>1 x 60 μm Hardtop XP |
|------------------------------|--|
|                              | 1 x 100 μm Jotamastic 80<br>1 x 60 μm Hardtop XP                                       |

### Superstructure – brush and roller application

| Typical system | 1-2 coats Jotamastic Smart Pack (touch up) |
|----------------|--|
| for on-board   | 1 x 60 µm Hardtop XP                       |
| maintenance    |  |



# **UNDERWATER HULL**

### Underwater hull – airless spray application

Typical systems 1 x 200 µm Jotamastic 87 Aluminium 1 x 100 µm Safeguard Universal ES Antifouling

> 1 x 150 µm Jotamastic 87 Aluminium 1 x 150 µm Safeguard Universal ES Antifouling

> 2 x 100 µm Jotamastic 80 Aluminium 1 x 100 µm Safeguard Universal ES Antifouling

# Jotamastic for Industry Typical tailor-made maintenance solutions

|   |                                | EXPOSURE                                 |  |  |          |  |
|---|--------------------------------|--|--|--|----------|--|
|   |                                | Mod                                      | derate   | Les                                    | s severe |  |
|   |                                | 2 x 100 µm Jotamast<br>1 x 60 µm Hardtop |  | 2 x 125 µm Jotama<br>1 x 60 µm Hardto  |          |  |
|   | Extended                       | 2 x 125 μm Jotamast<br>1 x 60 μm Hardtop |  | 2 x 150 µm Jotama<br>1 x 60 µm Hardtoj |          |  |
|   |                                |  |  |  |          |  |
|   |                                | 1 x 120 μm Jotamast<br>1 x 60 μm Hardtop |  | 2 x 100 µm Jotama<br>1 x 60 µm Hardtoj |          |  |
|   | TION                           | 2 x 100 µm Jotamast<br>1 x 60 µm Hardtop |  | 2 x 125 µm Jotama<br>1 x 60 µm Hardtoj |          |  |
| Kvisti Bridge, Norway. 9,080 m².<br>Penguard Tie Coat, Jotamastic 87 and Hardtop HB | LIFETIME EXPECTATION<br>Medium |  |  |  |          |  |
|   | Ê<br>IME ₽                     |  |  |  |          |  |
|   | LIFA                           |  |  |  |          |  |
|   |                                | 1 x 80 μm Jotamast<br>1 x 60 μm Hardtop  |  | 1 x 150 μm Jotama<br>1 x 60 μm Hardtor |          |  |
|   | Shorter                        | 1 x 150 μm Jotamast<br>1 x 60 μm Hardtop | tic 80<br>XP   | 2 x 100 µm Jotama<br>1 x 60 µm Hardtoj |          |  |
|   |                                |  |  |  |          |  |
| Basculebrug Over De Noord, The Netherlands  |                                |  |  |  |          |  |
| Jotamastic 87 Aluminium and Hardtop HB  |                                |  |  |  |          |  |
|   | Key:<br>Surface                | e preparation                            | Sa 2 <sup>1</sup> / <sub>2</sub> non-immersed industrial environments                              |  |          |  |
|   | and env                        | vironments St.                           | <ul> <li>2 non-immersed industri</li> <li>a 2<sup>1</sup>/<sub>2</sub> immersed in soil</li> </ul> | rial environments                      |          |  |
|   |                                |  | a $2^{1/2}$ non-immersed marine  | environments                           |          |  |
|   |                                | St 2                                     | 2 non-immersed marine  | environments                           |          |  |

# Industry references

16,000 m<sup>2</sup> of these tanks, owned by Arab Petroleum Pipelines Company – SUMED, were protected with 1 x 50 microns coat of Barrier, 1 x 200 microns coat of Jotamastic 87 and a 50 microns topcoat of Hardtop XP.



Owned by PETROGAS Petroleum Gas Company, these 4 spherical tanks were protected with 1 x 220 microns coat of Jotamastic 87 followed by 1 x 40 microns topcoat of Futura AS.





The Drammen railway bridge in Norway. 30,000 m<sup>2</sup> protected with a protective system which includes a 200 microns coat of Jotamastic 87.



The Usta Power Plant, Norway, owned by Oslo Energi. Pressure pipe, turbine and internal suction pipe are protected by Jotamastic 87. Over 250 million m<sup>2</sup> of pipe stocks for hydro electric power stations have been coated by this system in Norway alone.

# Severe

2 x 150 µm Jotamastic 87 1 x 60 µm Hardtop XP

| 1x 60µm  | Hardtop XP   |
|--|--|
|  |  |
| 2 x 250 µm   | Jotamastic 87 GF   |
|  | Jotamastic 87 Aluminium<br>Jotamastic 87<br>Hardtop XP   |
| 2 x 125 µm<br>1 x 60 µm  | Jotamastic 80<br>Hardtop XP  |
|  | Jotamastic 87<br>Jotamastic 80<br>Hardtop XP   |
| 2 x 200 µm   | Jotamastic 87  |
|  | Jotamastic 87 Aluminium<br>Jotamastic 80<br>Hardtop XP   |
|  | Jotamastic 87 Aluminium<br>Jotamastic 87<br>Hardtop XP   |
| 1 x 150 µm   | latamantia 07  |
|  | Hardtop XP   |
| or   | Hardtop XP<br>Jotamastic 80<br>Hardtop XP  |
| or<br>2 x 75 μm<br>1 x 60 μm<br>1 x 150 μm   | Hardtop XP<br>Jotamastic 80<br>Hardtop XP<br>Jotamastic 87<br>Jotamastic 80  |
| or<br>2 x 75 µm<br>1 x 60 µm<br>1 x 150 µm<br>1 x 100 µm<br>1 x 60 µm  | Hardtop XP<br>Jotamastic 80<br>Hardtop XP<br>Jotamastic 87<br>Jotamastic 80<br>Hardtop XP<br>Jotamastic 80 Aluminium               |
| or<br>2 x 75 µm<br>1 x 60 µm<br>1 x 150 µm<br>1 x 100 µm<br>1 x 60 µm<br>1 x 150 µm<br>1 x 60 µm<br>1 x 100 µm               | Hardtop XP<br>Jotamastic 80<br>Hardtop XP<br>Jotamastic 87<br>Jotamastic 80<br>Hardtop XP<br>Jotamastic 80 Aluminium<br>Hardtop XP |
| or<br>2 x 75 µm<br>1 x 60 µm<br>1 x 150 µm<br>1 x 100 µm<br>1 x 60 µm<br>1 x 150 µm<br>1 x 60 µm<br>1 x 100 µm<br>1 x 100 µm | Hardtop XP<br>Jotamastic 80<br>Hardtop XP<br>Jotamastic 87<br>Jotamastic 80<br>Hardtop XP<br>Jotamastic 80 Aluminium<br>Hardtop XP |

By using zinc-containing primers prolonged lifetime can be expected. Please contact your local Jotun office for more information

# Jotamastic for Offshore Typical tailor-made maintenance solutions

# ABOVE WATER

Carbon steel with operating temperature <120°C Structural steel Exteriors of equipment, vessels, piping and valves

| Typical systems | Longer expe  | cted repair intervals:  |
|-----------------|--------------|-------------------------|
|                 | 1 x 200 µm   | Jotamastic 87 Aluminium |
|                 | 1 x 200 µm   | Jotamastic 87           |
|                 | 1 x 60 µm    | Hardtop XP              |
| or              | 2 x 200 µm   | Jotamastic Plus         |
|                 | 1 x 60 µm    | Hardtop PS5             |
|                 | Shorter expe | ected repair intervals: |
|                 | 1 x 150 µm   | Jotamastic 80 Aluminium |
|                 | 1 x 100 µm   | Jotamastic 80           |
|                 | 1x 60 µm     | Hardtop XP              |
|                 |              |                         |

### **ABOVE WATER**

Carbon steel with operating temperature <80°C in internal, fully dry and ventilated areas

Typical system 1 x 150 µm Jotamastic 80

# **ABOVE WATER**

### Piping and valves

Typical system

2 coats Jotamastic Smart Pack 2 x 80 µm Jotamastic 80

# Offshore references

Jotun has been active in the protection of offshore structures in the North Sea from the very earliest days of its exploration. Jotun plays an important role in protecting structures located in many different environmental exposures from the cold North Sea to the most hot and humid southerly marine environments.



Mighty Servant 1 delivers the hull of the Kristin platform to Aker Kvaerner's assembly yard at Stord on the west coast of Norway. Built in Korea the Kristin hull is protected with Barrier, Jotamastic Plus and Polysiloxane topcoat.



Statoil's Huldra Platform in the North Sea, one of many offshore structures protected with Jotun's NORSOK pre-qualified systems which include Jotamastic Plus.



Leiv Eriksson semi-submersible platform is used for exploration and drilling in ultra deep water. Built at Dalian Shipyard, China and equipped and outfitted at Friede Goldman Offshore, USA. Deck and columns are protected with Jotamastic 87.

# ABOVE WATER

Walkways, escape routes and lay down areas

- Typical systems
- 2 x 200 µm Jotamastic 87 GF 1 x 60 µm Hardtop XP

or 2 x 200 µm Jotamastic 87 GF 1 x 1000 µm Jota Armour 1 x 70 µm Hardtop XP

# ABOVE WATER

#### Drill deck / Lay down area

Typical system

2 coats Jotamastic Smart Pack for brush and roller application 1 x 80 μm Hardtop Flexi

# SPLASH ZONE

Submerged carbon steel and carbon steel in splash zone

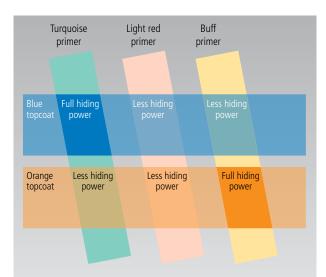
- Typical systems
- 1 x 200 μm Jotamastic 87 Aluminium 1 x 200 μm Jotamastic 87
- or  $\,$  2 x 250  $\mu m$  Jotamastic GF

# Colour Management Jotamastic 87 / Jotamastic 80

Jotamastic 87 and Jotamastic 80 offer a unique colour management concept. Three basic primer colours have been developed to ensure optimum hiding power by any selected topcoat colour. These three colours are buff, light red and turquoise.

By selecting the right primer colour, good hiding power and cosmetic appearance of the topcoat can be achieved by fewer number of coats or lower DFTs when compared to other primer colours.

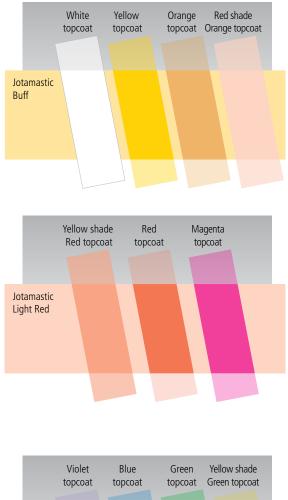
Using a coloured Jotamastic 87 or Jotamastic 80 to achieve full hiding by problematic colours can mean fewer topcoats – saving time and money.

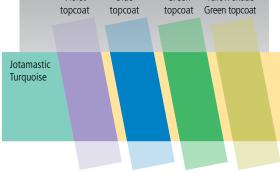


As illustrated above, to achieve full hiding power with a blue topcoat, the correct choice of Jotamastic colour is turquoise. Choosing one of the other colours would be the wrong choice as full hiding power would not be achieved. To achieve full hiding power with an orange topcoat, buff colour is the right choice.

### Follow the simple guidelines

Identify which topcoat colour will be used on the majority of the structure. Choose the Jotamastic colour that will provide the best hiding power. This maximises the economy as fewer layers of topcoat will be needed on the maximum area to be painted.





# Product Range Comparison

|   | Jotamastic<br>87            | Jotamastic<br>87<br>Aluminium        | Jotamastic<br>87 GF         | Jotamastic<br>80            | Jotamastic<br>80<br>Aluminium        | Jotamastic<br>Plus                   | Jotamastic<br>Smart Pack    |
|---|-----------------------------|--------------------------------------|-----------------------------|-----------------------------|--------------------------------------|--------------------------------------|-----------------------------|
| Areas of use  | General<br>areas            | General<br>areas                     | Hardwearing<br>areas        | General<br>areas            | General<br>areas                     | General<br>areas                     | General<br>areas            |
| Apply on St 2   | Yes                         | Yes                                  | Yes                         | Yes                         | Yes                                  | Yes                                  | Yes                         |
| Apply on water jetted surfaces                              | Yes                         | Yes                                  | Yes                         | Yes                         | Yes                                  | Yes                                  | Yes                         |
| Apply in single coat up to<br>(max film thickness per coat) | 300 µm                      | 300 µm                               | 350 μm                      | 150 µm                      | 150 µm                               | 300 µm                               | n.a.                        |
| Apply by airless spray                                      | Yes                         | Yes                                  | Yes                         | Yes                         | Yes                                  | Yes                                  | Yes                         |
| Apply by brush*   | Yes                         | Yes                                  | Yes                         | Yes                         | Yes                                  | Yes                                  | Yes                         |
| Apply by roller*  | Yes                         | Yes                                  | Yes                         | Yes                         | Yes                                  | Yes                                  | Yes                         |
| Apply at low temperatures<br>(WG = Wintergrade comp. B)     | WG: -5°C                    | WG: -5°C                             | WG: -5°C                    | WG: -5°C                    | WG: -5°C                             | 0°C                                  | 0°C                         |
| Volume solids % (std. comp. B)                              | 82                          | 87                                   | 80                          | 80                          | 80                                   | 72                                   | 72                          |
| Flow properties   | Very good                   | Very good                            | Very good                   | Very good                   | Very good                            | Very good                            | Excellent                   |
| Life cycle cost   | Low                         | Low                                  | Low                         | Low                         | Low                                  | Low                                  | Low                         |
| Abrasion resistance   | Very good                   | Very good                            | Excellent                   | Very good                   | Very good                            | Very good                            | Very good                   |
| Water resistance  | Excellent                   | Excellent                            | Excellent                   | Very good                   | Very good                            | Very good                            | Very good                   |
| Chemical splash tolerance                                   | Very good                   | Good                                 | Very good                   | Good                        | Good                                 | Good                                 | Good                        |
| VOC emissions (PG6 – std. comp. B)                          | 150 g/l                     | 110 g/l                              | 170 g/l                     | 145 g/l                     | 145 g/l                              | 240 g/l                              | 230 g/l                     |
| lsocyanate or tar content                                   | None                        | None                                 | None                        | None                        | None                                 | None                                 | None                        |
| Colours   | See Technical<br>Data Sheet | Aluminium,<br>Aluminium<br>Red toned | See Technical<br>Data Sheet | See Technical<br>Data Sheet | Aluminium,<br>Aluminium<br>Red toned | Aluminium,<br>Aluminium<br>Red toned | See Technical<br>Data Sheet |
| Colour management   | Yes                         | No                                   | No                          | Yes                         | No                                   | No                                   | No                          |

\* Only Jotamastic Smart Pack is specially designed for brush and roller. For the other products care must be taken to apply sufficient material in order to achieve the specified dry film thickness

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