



# JOTUN

## Jotaguard 600 Series

### Cargo Hold Coatings





# Counting the cost of poor cargo hold maintenance

Strong mechanical force is constantly exposed to cargo hold coatings, especially for the tank top and shedder plate positions. Together with cargo settlement during ship movement and sailing, impact, scraping and gouging are unavoidably the major physical damages which cargo hold coatings must be able to handle.

The common dry cargoes, like coal or ore, almost always contain some impurities and moisture, and are likely to form a chemically corrosive environment. Corrosion due to lack of maintenance will put the structural integrity in danger.

International regulations have been introduced to improve ship design and inspections with a particular focus on corrosion, and on routine in-port inspections.

## **The effect on vessel service life**

Rectifying damage and corrosion resulting from poor choice of cargo hold coating can have a major and lasting effect on vessel earnings and vessel lifetime.

## **The effect on earnings**

A good cargo hold coating must be robust in order to ensure continuing profitability.

Choice of a specialised coating system and its planned maintenance schedule will minimize costly downtime and help maintain the profitability of the vessel.



*Gouging*

## **The effects of legislation**

Good pre-treatment and application of a specialised coating system will ensure the vessel meets the standards now demanded by Classification Societies and other authorities.



*Typical damage*



*Corrosion*



# Jotaguard 600 series

## Providing the solutions

Jotaguard 600 series products are designed and developed to cope with the very tough exposure in cargo holds. As functional coatings, the fast hardness development and mechanical strength, together with corrosion and chemical resistance are very important for property protection.

## Cargo transportation

The major bulk carriers can generally be categorised into Handy, Handymax, Supramax, Panamax and Capesize. Depending on vessel size and type, they are more likely to be dedicated to certain types of transportation pattern.

Spot trading	<ul style="list-style-type: none"><li>• Serve a large number of geographically dispersed global trades</li><li>• Commonly traded cargoes: Grain, sulphur, bauxite/iron ore, coal/coke, bulk minerals</li></ul>	<ul style="list-style-type: none"><li>• Certificate</li><li>• Chemical resistance</li><li>• Mechanical strength</li><li>• Smooth surface assists cleaning between shifts</li></ul>
Specialised	<ul style="list-style-type: none"><li>• Serve deepwater terminals</li><li>• Major cargo type: iron ore and coal</li></ul>	<ul style="list-style-type: none"><li>• Mechanical strength</li><li>• Corrosion protection</li></ul>

**JOTUN** Cargo Hold Pathfinder

Vessel name: \_\_\_\_\_ Vessel type: \_\_\_\_\_ IMO number: \_\_\_\_\_ Vessel country: \_\_\_\_\_

**Cargo types**

☐ Coal / Coke

☐ Plant cargoes

☐ "Soft" cargoes

☐ Aggressive cargoes (including water cargoes)

☐ Ballast water

**Surface preparation**

☐ Abrasive blasting to Sa 2 according to ISO 8501-1:2007

☐ Unprimed to Wt 2 according to ISO 8501-4:2006

☐ Mechanical preparation to ISO 8501-1:2007

**Performance expectation**

100 500 1000

**Vessel type**

☐ Handy

☐ Handymax

☐ Supramax

☐ Panamax

☐ Capesize

☐ VLCC

**System Recommendation**

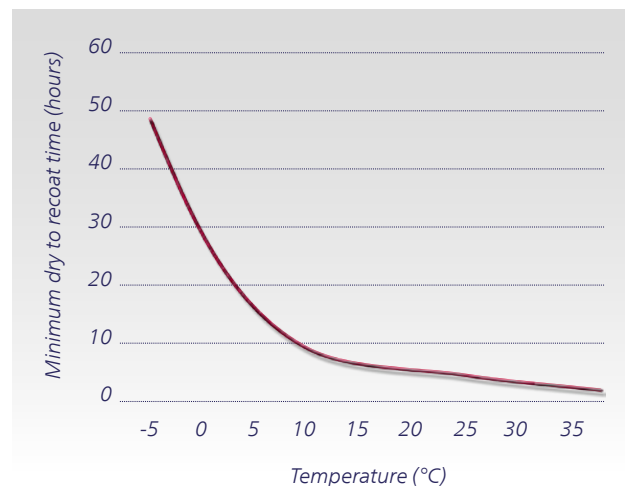
## Product range

Proven in exhaustive testing and on-vessel application Jotaguard 600 series products meet all the needs of cargo hold protection.

## Application benefits – excellent applicability and productivity

- Fast drying at all temperatures, ideal for tight coating schedules

Jotaguard 600 series products have fast drying speeds at all temperatures and especially unrivalled drying speeds at lower temperatures, shortening downtime when it values.



- Same product for all seasons

Can be used under different climatic conditions and temperatures from -5°C up to 40°C. No winter-grade or cold climate version is necessary.

- Available in two contrasting colours
- Enabling easy inspection.

## Cargo Hold Pathfinder

Jotun's sophisticated Cargo Hold Pathfinder programme is designed to provide a valuable contribution toward achieving recommended coating systems that meet the challenges of specific operational needs.



1 x 125  $\mu$ m Jotaguard 690 Grey



1 x 125  $\mu$ m Jotaguard 690 S Red

# Jotaguard 690 / Jotaguard 690 S

## Ultimate durability

Jotaguard 690 and Jotaguard 690 S are designed to provide the ultimate cargo hold protection. Supreme mechanical strength enables them to withstand abrasion, impact and gouging resulting from the toughest operating environments. Together with excellent corrosion resistance, they provide long-lasting service and reduce the maintenance needed during operation.

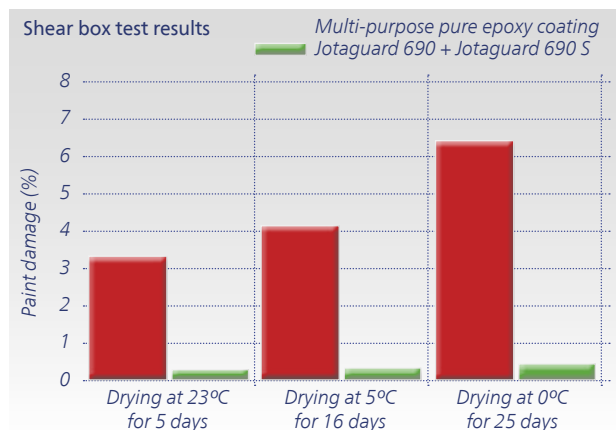
Jotaguard 690 is a two-pack, high solids polyamine cured pure epoxy based primer coating with excellent mechanical properties.

Jotaguard 690 S is recommended for use as a finish coat to maximise abrasion and scratch resistance.

### Paint damage

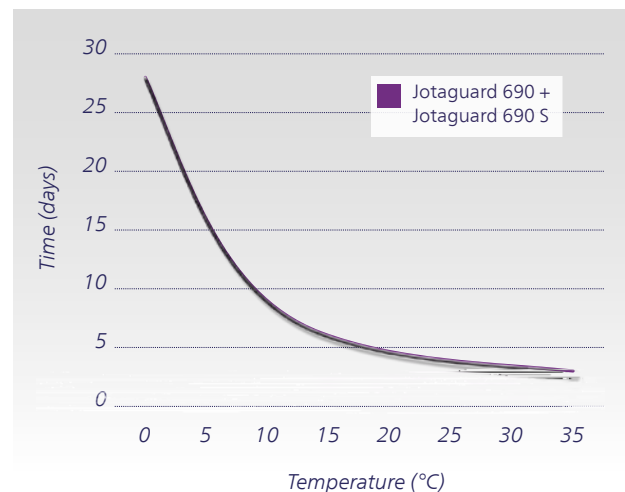
The system:

1 x 125 µm Jotaguard 690 + 1 x 125 µm Jotaguard 690 S outperforms multi-purpose abrasion resistant pure epoxy coatings in all drying conditions, showing high curing speeds and excellent abrasion resistance.



### In-service benefits

- Extended service life: Reduced cost and downtime associated with maintenance
  - Superb mechanical strength, impact and abrasion resistance
  - Long lasting corrosion resistance
- Short time to load first hard/aggressive cargoes
  - Fast hardness development at all temperatures
  - Increased productivity



- FDA compliant, certified for carriage of grain
- Can be used on surfaces prepared to Sa2 (ISO – 8501)
- Hard, smooth surface assists cleaning between cargo shifts
- High build, high volume solids
- VOC compliant

Dry film thickness µm (min/max)	100–250, typical: 125			
Solids (volume%)	75 ± 2			
Colours	Grey, Red			
Mixing ratio	3 parts comp. A (base) 1 part comp. B (curing agent)			
Pot life (23°C)	1 hour			
Touch dry	-5°C	10°C	23°C	40°C
	20 h	5 h	2.5 h	1 h
Dry to recoat minimum	48 h	10 h	5 h	2 h





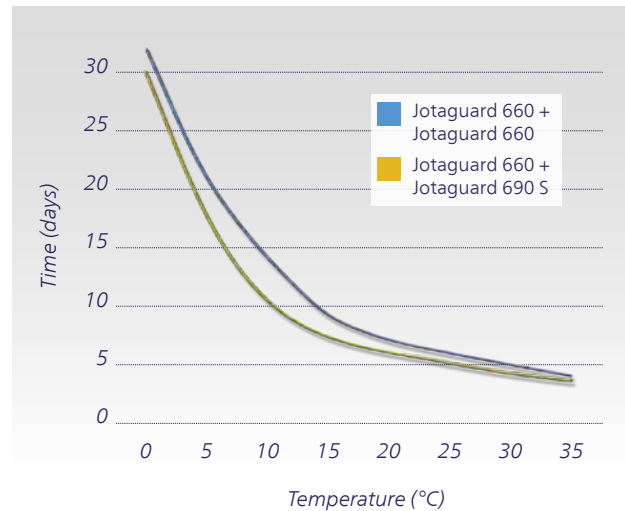
# Jotaguard 660

## Exceptional robustness

Jotaguard 660 is a high performance pure epoxy coating providing very good protection to cargo holds against mechanical damage and corrosive environments.

### In-service benefits

- Very good abrasion and corrosion resistance
  - Protects against angular, hard cargoes
  - Very good corrosion resistance
- Short time to load first hard/aggressive cargo
- Save on surface treatment costs:
  - Can be applied to
    - Surface prepared to Sa2 (ISO-8501)
    - Surface prepared down to St2 (ISO-8501)
    - UHPWJ surface to WA2 FR(M)/(NACE No.5/SSPC-SP 12)
- FDA compliant, certified for carriage of grain
- Hard, smooth surface assists cleaning between cargo shifts
- High build, high volume solids
- VOC compliant



Dry film thickness µm (min/max)	100–250, typical: 125			
Solids (volume%)	72 ± 2			
Colours	Grey, Red			
Mixing ratio	3 parts comp. A (base) 1 part comp. B (curing agent)			
Pot life (23°C)	1 hour			
Touch dry	-5°C	10°C	23°C	40°C
	22 h	5 h	2.5 h	1 h
Drying times	-5°C	10°C	23°C	40°C
Dry to recoat, minimum	48 h	10 h	5 h	2 h



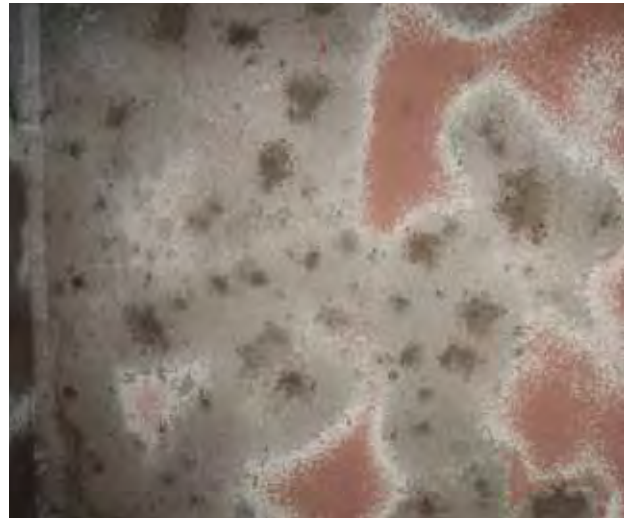
# Jotaguard 630

## Effective protection

Jotaguard 630 is an epoxy based cargo hold coating with tolerance to typical maintenance surfaces.

### In-service benefits

- Low surface treatment requirement, saving on preparation
  - Surface prepared to Sa2 (ISO-8501)
  - Surface prepared down to St2 (ISO-8501)
  - UHPWJ to WA2 FR(M)/(NACE No.5/SSPC-SP 12)
  - Sweep blasting surface
- Good re-coatability and compatibility
- Certified for carriage of grain
- Hard, smooth surface assists cleaning between cargo shifts
- VOC compliant



Dry film thickness $\mu\text{m}$ (min/max)	100–200, typical: 125			
Solids (volume%)	71 $\pm$ 2			
Colours	Grey, Red			
Mixing ratio	4 parts comp. A (base) 1 part comp. B (curing agent)			
Pot life (23°C)	1 hour			
Touch dry	-5°C	10°C	23°C	40°C
	20 h	4 h	2 h	1
Drying times	-5°C	10°C	23°C	40°C
Dry to recoat, minimum	48 h	10 h	4 h	2 h

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Jotun Protects Property