

# Application Guide



## Tankguard Special Primer and Mid coat

### Product description

This is a two component polyamine cured novolac epoxy coating. It has very good chemical resistance. Can be used as primer or mid coat in atmospheric and immersed environments. Suitable for properly prepared carbon steel, galvanised steel and stainless steel substrates.

### Scope

The Application Guide offers product details and recommended practices for the use of this product.

The Application Guide (AG) must be read in conjunction with the relevant specification, Technical Data Sheet (TDS) and Safety Data Sheet (SDS) for all the products used as part of the coating system.

### Referred standards

Reference is generally made to ISO Standards. When using standards from other regions it is recommended to reference only one corresponding standard for the substrate being treated.

### Surface preparation

The required quality of surface preparation can vary depending on the area of use, expected durability and if applicable, project specification.

When preparing new surfaces, maintaining already coated surfaces or aged coatings it is necessary to remove all contamination that can interfere with coating adhesion, and prepare a sound substrate for the subsequent product. Inspect the surface for hydrocarbon and other contamination and if present, remove with an alkaline detergent. Agitate the surface to activate the cleaner and before it dries, wash the treated area using fresh water. Paint solvents (thinners) shall not be used for general degreasing or preparation of the surface for painting due to the risk of spreading dissolved hydrocarbon contamination. Paint thinners can be used to treat small localized areas of contamination such as marks from marker pens. Use clean, white cotton cloths that are turned and replaced often. Do not bundle used solvent saturated cloths. Place used cloths into water. When the surface is an existing coating, verify with technical data sheet and application guide of the involved products, both over coatability and the given maximum over coating interval.

#### Process sequence

Surface preparation and coating should normally be commenced only after all welding, degreasing, removal of sharp edges, weld spatter and treatment of welds is complete. It is important that all hot work is completed before coating commences.

#### Soluble salts removal

Soluble salts have a negative impact on the coating systems performance, especially when immersed. Jotun's general recommendations for maximum soluble salts (sampled and measured as per ISO 8502-6 and -9) content on a surface are: Chemical tanks: 50 mg/m<sup>2</sup> For areas exposed to (ISO 12944-2): C1-C4: 200 mg/m<sup>2</sup> C5M or C5I: 100 mg/m<sup>2</sup> Im1-Im3: 80 mg/m<sup>2</sup>

#### Carbon steel

##### Initial rust grade

The steel shall preferably be Rust Grade A or B (ISO 8501-1). It is technically possible to apply the coating to grades higher than B, but it is practically challenging to ensure specified film thickness on such a rough surface, hence risk of reduced lifetime of the coating system. When steel of Rust Grade C or D is coated, the frequency of inspection and testing should be increased.

##### Metal finishing

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Page: 1/10

This Application Guide supersedes those previously issued.

The Application Guide (AG) must be read in conjunction with the relevant specification, Technical Data Sheet (TDS) and Safety Data Sheet (SDS) for all the products used as part of the coating system.

For your nearest local Jotun office, please visit our website at [www.jotun.com](http://www.jotun.com).

## Application Guide

### Tankguard Special Primer and Mid coat



For areas in corrosivity category C1 to C4 (ISO 12944-2) all irregularities, burrs, slivers, slag and spatter on welds, sharp edges and corners shall conform to minimum grade P2 (ISO 8501-3) Table 1, or as specified. All edges shall have a rounded radius of minimum 2 mm subjected to three pass grinding or equally effective method. For areas in corrosivity category C5, Im1-3 the requirement is for the steel to conform to grade P2 (ISO 8501-3) Table 1. All edges shall have a rounded radius of minimum 2mm subjected to three pass grinding or equally effective method. One may use a mechanical grinder fitted with a suitable abrasive disc. All sharp irregularities, burrs, slivers, slag and spatter on welds, whether apparent before or after blast cleaning, shall be removed before coating application. It is recommended that welding smoke should be removed by low-pressure Water Cleaning LP WC method (ISO 8501-4:2006) Wa1 using fresh water. Welding smoke residues are water soluble and could cause blistering if not removed by washing before blasting. Defective welds shall be replaced and treated to an acceptable finish before painting. Temporary welds and brackets shall be ground to a flat finish after removal from the parent metal. Surface preparation and coating should normally be commenced only after all metal finishing and degreasing of a specific area is complete. It is important as much hot work as possible is completed before coating commences.

#### Pitting repair

Pittings in steel can be difficult to cover fully with most coatings. In some areas it is practically feasible to use filler to fill pittings. This should then be done either after the initial surface preparation or after application of first coat. For tank coating and lining used for chemical exposure the recommendation is to fill pits through welding, since using fillers may negatively affect the coating systems' chemical resistance and flexibility.

#### Abrasive blast cleaning

Application of protective coating shall commence before degradation of the surface standard occurs.

#### Cleanliness

After pre-treatment is complete, the surface shall be dry abrasive blast cleaned to Sa 2½ (ISO 8501-1) using abrasive media suitable to achieve a sharp and angular surface profile.

#### Surface profile

Recommended surface profile 50-100 µm, grade Medium to G; Ry5 (ISO 8503- 2). Measure the achieved profile with surface replication tape (Testex) to ISO 8503-5 or by a surface roughness stylus instrument (ISO 8503-4).

#### Abrasive media quality

The selected abrasive must be compatible with both the surface to be blast cleaned and the specified coating system. The abrasive shall meet specifications as per relevant parts of ISO 11124 (Specification for metallic blast-cleaning abrasives), or ISO 11126 (Specification for non-metallic blast-cleaning abrasives). It should be sampled and tested as per relevant parts of ISO 11125 (metallic abrasives) or ISO 11127 (non-metallic abrasives). Dry storage of abrasive and shelter for blasting pots is necessary to prevent equipment becoming clogged with damp abrasive.

All abrasive blast media used should be new and not recirculated, with the exception of Steel Grit. If this is utilized the circulation process must include a cleaning process.

#### Compressed air quality

The supply of clean air to blasting pots must be secured to avoid contamination of abrasive and thereby of blast cleaned surfaces. Compressors must be fitted with sufficient traps for oil and water. It is also recommended to fit two water separators at the blasting machine to ensure a supply of moisture-free air to the abrasive chamber.

#### Dust contamination

At the completion of abrasive blasting the prepared surface shall be cleaned to remove residues of corrosion product and abrasive media and inspected for surface particulate contamination. Maximum contamination level is rating 1 (ISO 8502-3) as per Figure 1. Dust size no greater than class 2.

#### Hand and Power Tool Cleaning

##### Power tool cleaning

# Application Guide

## Tankguard Special Primer and Mid coat



Minor damage of the coating may be prepared to St 3 (ISO 8501-1). Suitable method is disc grinding with rough discs only. Ensure the surface is free from mill scale, residual corrosion, failed coating and is suitable for painting. The surface should appear rough and mat. Overlapping zones to intact coating shall have all leading edges feathered back by sanding methods to remove all sharp leading edges and establish a smooth transition from the exposed substrate to the surrounding coating. Consecutive layers of coating shall be feathered to expose each layer and new coating shall always overlap to an abraded existing layer. Abrade intact coatings around the damaged areas for a minimum 100 mm to ensure a mat, rough surface profile, suitable for over coating.

### Galvanised steel

#### Abrasive blast cleaning

After removal of excess zinc and surface defects the area to be coated shall be degreased to ISO 12944-4, Part 6.1.4 Alkaline Cleaning. The galvanised surface shall be dry abrasive brush off blast cleaned with the nozzle angle at 45-60° from perpendicular at reduced nozzle pressure to create a sharp and angular surface profile using approved non-metallic abrasive media. As a guide, a surface profile 25-55 µm, grade Fine G; Ry5 (ISO 8503-2) should be achieved.

Care must be exercised when sweep blasting. The zinc coating thickness should be reduced as little as possible, preferably not more than 10 µm.

Smaller areas can be lightly treated with abrasive paper.

Finished surfaces shall be dull, profiled and show no areas of shiny metal.

Do not handle the prepared surface with bare hands.

### Stainless steel

#### Abrasive blast cleaning

The surface to be coated shall be dry abrasive blast cleaned as required for the specified surface profile using non-metallic abrasive media which is suitable to achieve a sharp and angular surface profile. As a guide, a surface profile corresponding to 25-55 µm, grade Fine G; Ry5 (ISO 8503-2) should be achieved. Examples of recommended abrasives are:

- Ferrite free almandite garnet grade 30/60 and 80 grade (US Mesh size)
- Aluminium oxide grade G24.

Chlorinated or chlorine containing solvents or detergents must not be used on stainless steel.

### Coated surfaces

#### Shop primers

Shop primers are accepted as temporary protection of steel plates and profiles. However the shopprimer should be completely removed through blast cleaning to minimum Sa 2½ (ISO 8501-1) using abrasive media suitable to achieve a sharp and angular surface profile 45-85µm, grade Medium G; Ry5 (ISO 8503- 2).

## Application

### Acceptable environmental conditions - before and during application

Before application, test the atmospheric conditions in the vicinity of the substrate for the dew formation according to ISO 8502-4.

#### Standard grade

|                        |         |    |
|------------------------|---------|----|
| Air temperature        | 10 - 60 | °C |
| Substrate temperature  | 10 - 50 | °C |
| Relative Humidity (RH) | 10 - 85 | %  |

The following restrictions must be observed:

# Application Guide

## Tankguard Special Primer and Mid coat



- Only apply the coating when the substrate temperature is at least 3°C above the dew point
- Do not apply the coating if the substrate is wet or likely to become wet
- Do not apply the coating if the weather is clearly deteriorating or unfavourable for application or curing
- Do not apply the coating in high wind conditions

## Product mixing

### Product mixing ratio (by volume)

If Tankguard Special Primer Comp A, mix with Tankguard Special Comp B.  
If Tankguard Special Mid Coat Comp A, mix with Tankguard Special Comp B.

|                                   |   |         |
|-----------------------------------|---|---------|
| Tankguard Special Primer Comp A   | 4 | part(s) |
| Tankguard Special Mid Coat Comp A | 4 | part(s) |
| Tankguard Special Comp B          | 1 | part(s) |

### Induction time and Pot life

**Paint temperature** **23 °C**

|                |        |
|----------------|--------|
| Induction time | 20 min |
| Pot life       | 3 h    |

Reduced at higher temperatures

The temperature of base and curing agent is recommended to be 18 °C or higher when the paint is mixed.

### Thinner/Cleaning solvent

Thinner: Jotun Thinner No. 23

## Application data

### Airless Spray Equipment

|                                |                  |
|--------------------------------|------------------|
| Pump ratio (minimum) :         | 42:1             |
| Pump output (litres/minute) :  | 1.3-1.9          |
| Pressure at nozzle (minimum) : | 150 bar/2100 psi |
| Nozzle tip (inch/1000) :       | 17-21            |
| Filters (mesh) :               | 70               |

Material hose length :

Several factors influence, and need to be observed to maintain the recommended pressure at nozzle. Among factors causing pressure drop are:

- long paint- and whip hoses
- low inner diameter hoses
- high paint viscosity
- large spray nozzle size
- inadequate air capacity from compressor
- wrong or clogged filters

# Application Guide

## Tanguard Special Primer and Mid coat



### Other application tools

Roller application

Roller application to be used for scallops, ratholes etc., only.

## Recommended film thickness per coat

| Film thickness and spreading rate | Dry film thickness | Wet film thickness | Theoretical spreading rate |
|-----------------------------------|--------------------|--------------------|----------------------------|
|                                   | ( $\mu\text{m}$ )  |                    | ( $\text{m}^2/\text{l}$ )  |
| Minimum                           | 80                 | 125                | 7,9                        |
| Maximum                           | 150                | 240                | 4,2                        |
| Typical                           | 100                | 160                | 6,3                        |

### Wet film thickness (WFT) measurement and calculation

To ensure correct film thickness, it is recommended to measure the wet film thickness continuously during application using a painter's wet film comb (ISO 2808 Method 1A). Use a wet-to-dry film calculation table to calculate the required wet film thickness per coat.

A wet to dry film thickness chart is available on the Jotun Web site.

### Dry film thickness (DFT) measurement

When the coating has cured to hard dry state the dry film thickness can be checked to SSPC PA 2 or equivalent standard using statistical sampling to verify the actual dry film thickness. Measurement and control of the WFT and DFT on welds is done by measuring adjacent to and no further than 15 cm from the weld.

### Application / Drying / Curing considerations

Pay close attention to both spraying technique and the correct setting of equipment during application in order to achieve an even, pinhole free film. A combination of the correct inbound air / outbound material pressure, correct airless tip or spray set up and a 30-50 cm gun to substrate distance is recommended. Apply the coating in even and uniform parallel passes and overlap each pass 50% to achieve an even film. Use a painter's wet film comb during application to control the wet to dry film thickness of the coating.

### Ventilation

When a solvent containing coating is applied in a confined space, for example a cargo tank, the solvent will evaporate and make an explosive atmosphere unless the solvent concentration is immediately reduced to a not-explosive level. Hence, artificial ventilation will be required. This ventilation must be maintained during the paint application and drying in accordance with the TDS data. The ventilation shall ensure that the solvent concentration in the tank at no time exceeds the maximum permitted (i.e. 0.1%).

Detailed background information about ventilation arrangements and calculations is given in the Code of Practice for Tank Coating, available at the TSS home page. There one will also find a "Ventilation calculator" that can be used for different coatings and thinners.

The Required Air Quantity (RAQ) is the amount of air needed to prevent that the solvent content of the drying paint makes the air explosive. For a typical tank coating the RAQ is 60  $\text{m}^3$  of air per litre of paint. This means that for every litre of paint used one must ensure that this amount of air is made available so that the solvents in the paint can be diluted to a no longer dangerous concentration. If the paint is diluted with a thinner this will require additional fresh air. Thinner No. 23 requires 200  $\text{m}^3/\text{litre}$ .

Note that it is the responsibility of the Yard or Paint Application Contractor to ensure that there is a safe work environment in the tank. However, Jotun may assist in calculating RAQ, and design of the ventilation. Therefore, the Coating Advisor may be asked for advice.

## Application Guide

### Tankguard Special Primer and Mid coat



The input of fresh air to the tank can be calculated provided the RAQ of the paint (and thinner, if used) is known :

Ventilation, m<sup>3</sup> air input per minute =  $[P \cdot RAQA + Q \cdot RAQB] / t$   
where

P = paint to be used in the tank, litres

Q = additional thinner used in this paint, litres

RAQA = RAQ, (m<sup>3</sup>/l) for the paint

RAQB = RAQ, (m<sup>3</sup>/l) for the thinner (if added)

t = (application + surface dry) time in minutes

Note that the ventilation fans must run until the coating is Through dry / Walk-on dry (cf. the TDS). The ventilation may run also after the coating is through dry, i.e. until the coating is cured. The need for ventilation is highest during the paint application process, when solvents evaporate both from the paint spray and the wet paint surface. When the coating is Surface (touch) dry the solvent evaporation rate is much lower and the fan speed may be reduced.

Example:

A 650 m<sup>3</sup> tank is coated with one coat of a 70 % VS tank coating, 125 µm DFT.

The tank has a calculated surface area of 1260 m<sup>2</sup>.

The paint will be thinned 2 % (Thinner no. 23).

Application speed is 3.5 litres per minute.

How much fresh air must be blown into the tank per minute to eliminate the explosion risk?

The steel temperature is 23°C.

Answer:  $125 \mu\text{m}/0.70 \cdot 1260 \text{ m}^2 = 225$  litres of paint. 2 % to this is 4.5 litres thinner.

This requires  $225 \cdot 60 + 4.5 \cdot 200 = 14400$  m<sup>3</sup> fresh air.  $(225+4.5)$  litres / 3.5 litres sprayed per minute = 66 minutes application time.

Time to Surface dry (as per technical data sheet) is 4 hours at 23°C.

The average ventilation rate for the most demanding period is therefore  $14400 \text{ m}^3 / (66 + 4 \cdot 60) \text{ min} = 47 \text{ m}^3 / \text{minute}$ .

There is an alternative calculation of ventilation based on the "Number of air exchanges per hour" concept. In yard specifications one may, for example, find that during the paint application and drying, two or three air changes per hour in the tank is specified. This is a practical approach, but it does not take into account the solvent evaporation from the painting and drying process, and may lead to unsatisfactory results as to the elimination of the explosion risk.

As an example, using the figures above, one finds that "Three air exchanges per hour" corresponds to a ventilation rate of  $3 \cdot 650 \text{ m}^3 / \text{hour} = 33 \text{ m}^3 / \text{minute}$ .

In this case the alternative approach under estimates the ventilation requirement. A way to come around this is to increase the air exchange rate, or reduce the application speed.

#### Stripe coating

The stripe coat sequence can be either of the following:

1. Surface preparation, stripe coat, full coat.
2. Surface preparation, full coat, stripe coat. This sequence can be used when a large substrate area has been prepared and leaving the substrate exposed for a long time while doing stripe coating could lead to surface deterioration.

In general Jotun recommends alternative 2 because it reduces the risk that "new" contamination will be introduced to the uncoated substrate.

Walking on the blast cleaned substrate in order to do the stripe coating presents a risk for such contamination. It is important to pay special attention to edges, openings, rear sides of stiffeners, scallops etc. and to apply a stripe coat to these areas where the spray fan may not reach or deposit an even film.

When applying a stripe coat to bare metal use only a stiff, round stripe coating brush to ensure surface wetting and filling of pits in the surface.

## Application Guide

### Tankguard Special Primer and Mid coat



If applying the stripe coat after a full primer coat has been applied, the stripe coat can be applied by either brush or by airless spray using a tip with a narrow spray fan. Stripe coating shall be of a different colour to the main primer coat and the topcoat colour and should be applied in an even film thickness, avoiding excessive brush marks in order to avoid entrapped air. Care should be taken to avoid excessive film thickness. Pay additional attention to pot life during application of stripe coats. Jotun recommends a minimum of one stripe coat. A second stripe coat, with the same colour as the first full coat, will be beneficial in order to ensure that sufficient paint material is applied to the critical parts of the object.

#### Coating loss

The consumption of paint should be controlled carefully, with thorough planning and a practical approach to reducing loss. Application of liquid coatings will result in some material loss. Understanding the ways that coating can be lost during the application process, and making appropriate changes, can help reducing material loss.

Some of the factors that can influence the loss of coating material are:

- type of spray gun/unit used
- air pressure used for airless pump or for atomization
- orifice size of the spray tip or nozzle
- fan width of the spray tip or nozzle
- the amount of thinner added
- the distance between spray gun and substrate
- the profile or surface roughness of the substrate. Higher profiles will lead to a higher "dead volume"
- the shape of the substrate target
- environmental conditions such as wind and air temperature

## Drying and Curing time

| Substrate temperature                    | 10 °C | 15 °C | 23 °C | 40 °C |
|--|-------|-------|-------|-------|
| Surface (touch) dry                      | 18 h  | 10 h  | 5.5 h | 2 h   |
| Dried to over coat, minimum              | 52 h  | 36 h  | 20 h  | 10 h  |
| Dried to over coat, maximum, atmospheric | 18 d  | 12 d  | 7 d   | 4 d   |
| Dried/cured for service                  |       | 14 d  | 7 d   | 3 d   |

Drying and curing times are determined under controlled temperatures and relative humidity below 85%, and within the DFT range of the product.

Surface (touch) dry: The state of drying when slight pressure with a finger does not leave an imprint or reveal tackiness. Dry sand sprinkled on the surface can be brushed off without sticking to or causing damage to the surface.

Dried to over coat, minimum: The shortest time allowed before the next coat can be applied.

Dried to over coat, maximum, atmospheric: The longest time allowed before the next coat can be applied without any surface preparation.

Dried/cured for service: Minimum time before the coating can be permanently exposed to the intended environment/medium.

## Maximum over coating intervals for atmospheric exposure

| Substrate temperature | 10 °C | 15 °C | 23 °C | 40 °C |
|-----------------------|-------|-------|-------|-------|
| Itself                | 18 d  | 12 d  | 7 d   | 4 d   |
| novolac epoxy         | 18 d  | 12 d  | 7 d   | 4 d   |

## Application Guide

### Tankguard Special Primer and Mid coat



## Maximum over coating intervals for immersed exposure

| Substrate temperature | 10 °C | 15 °C | 23 °C | 40 °C |
|-----------------------|-------|-------|-------|-------|
| Itself                | 18 d  | 12 d  | 7 d   | 4 d   |
| novolac epoxy         | 18 d  | 14 d  | 7 d   | 4 d   |

### Other conditions that can affect drying / curing / over coating

#### Repair of coating system

Damages to the coating layers:

Prepare the area through sandpapering or grinding, followed by thorough washing. When the surface is dry the coating may be over coated by itself or by another product, ref. original specification.

Always observe the maximum over coating intervals. If the maximum over coating interval is exceeded the surface should be carefully roughened in order to ensure good intercoat adhesion. Damages exposing bare substrate:

Remove all rust, loose paint, grease or other contaminants by spot abrasive blasting, mechanical grinding, water and/or solvent washing. Feather edges and roughen the overlap zone of surrounding intact coating. Apply the coating system specified for repair.

#### Repair of damaged areas

Sags and runs can be caused by too high wet film thickness, too much thinner added or the spray gun used too close to the surface.

Repair by using a paint brush to smooth the film when still wet.

Sand down to a rough, even surface and re-coat if the coating is cured. Orange peel can be caused by poor flow/levelling properties of the paint, poor atomization of the paint, thinner evaporating too fast or the spray gun held too close to the surface.

This can be rectified by abrading the surface and applying an additional coat after having adjusted the application properties or the application technique. Dry spray can be caused by poor atomization of the paint, spray gun held too far from the surface, high air temperature, thinner evaporating too fast or coating applied in windy conditions. Sand down to a rough even surface and re-coat. Pinholes can be caused by entrapped solvents in the film or by incorrect application technique.

Pinholes can be repaired as per procedure for damages to the coating layer or to the substrate, ref. above.

#### Coating film continuity

When required by the specification, the coating shall be tested for film continuity and defects as described in ASTM D 5162.

Jotun recommends that all coating systems for immersion are pin hole/defect tested according to ASTM D 5162, method A or B as appropriate for the coating thickness. Alternatively by visual observation of pin hole rusting through the coating after tank hydro-testing or sea water immersion during sea trials. All noted defects shall be repaired or reported as outstanding issues.

The recommended voltage is 500 volts per 100 µm DFT. The acceptance criterion is no defects.

## Quality assurance

The following information is the minimum recommended. The specification may have additional requirements.

- Confirm all welding and other metal work, whether internal or external to the tank, has been completed before commencing pre-treatment and surface preparation of the substrate
- Confirm installed ventilation is balanced and has the capacity to deliver and maintain the RAQ
- Confirm the required surface preparation standard has been achieved and is held prior to coating application
- Confirm that the climatic conditions are within recommendation in the AG and held during the application
- Confirm the required number of stripe coats have been applied
- Confirm each coat meets the DFT requirements of the specification
- Confirm the coating has not been adversely affected by rain or any other agency during curing
- Observe adequate coverage has been achieved on corners, crevices, edges and surfaces where the spray gun

## Application Guide

### Tankguard Special Primer and Mid coat



cannot be positioned so that its spray impinges on the surface at 90°

- Observe the coating is free from defects, discontinuities, insects, spent abrasive media and other contamination
- Observe the coating is free from misses, sags, runs, wrinkles, fat edges, mud blistering, blistering, obvious pinholes, excessive dry spray, heavy brush marks and excessive film build
- Observe the uniformity and colour are satisfactory

All noted defects should be fully repaired to conform to the coating specification.

#### Caution

This product is for professional use only. The applicators and operators shall be trained, experienced and have the capability and equipment to mix/stir and apply the coatings correctly and according to Jotun's technical documentation. Applicators and operators shall use appropriate personal protection equipment when using this product. This guideline is given based on the current knowledge of the product. Any suggested deviation to suit the site conditions shall be forwarded to the responsible Jotun representative for approval before commencing the work.

For further advice please contact your local Jotun office.

#### Health and safety

Please observe the precautionary notices displayed on the container. Use under well ventilated conditions. Do not inhale spray mist. Avoid skin contact. Spillage on the skin should immediately be removed with suitable cleanser, soap and water. Eyes should be well flushed with water and medical attention sought immediately.

#### Accuracy of information

Always refer to and use the current (last issued) version of the TDS, SDS and if available, the AG for this product. Always refer to and use the current (last issued) version of all International and Local Authority Standards referred to in the TDS, AG & SDS for this product.

#### Colour variation

Some coatings used as the final coat may fade and chalk in time when exposed to sunlight and weathering effects. Coatings designed for high temperature service can undergo colour changes without affecting performance. Some slight colour variation can occur from batch to batch. When long term colour and gloss retention is required, please seek advice from your local Jotun office for assistance in selection of the most suitable top coat for the exposure conditions and durability requirements.

#### Reference to related documents

The Application Guide (AG) must be read in conjunction with the relevant specification, Technical Data Sheet (TDS) and Safety Data Sheet (SDS) for all the products used as part of the coating system.

When applicable, refer to the separate application procedure for Jotun products that are approved to classification societies such as PSPC, IMO etc.

## Symbols and abbreviations

min = minutes

h = hours

d = days

°C = degree Celsius

° = unit of angle

µm = microns = micrometres

g/l = grams per litre

g/kg = grams per kilogram

m<sup>2</sup>/l = square metres per litre

mg/m<sup>2</sup> = milligrams per square metre

psi = unit of pressure, pounds/inch<sup>2</sup>

Bar = unit of pressure

RH = Relative humidity (% RH)

UV = Ultraviolet

DFT = dry film thickness

TDS = Technical Data Sheet

AG = Application Guide

SDS = Safety Data Sheet

VOC = Volatile Organic Compound

MCI = Jotun Multi Colour Industry (tinted colour)

RAQ = Required air quantity

PPE = Personal Protective Equipment

EU = European Union

UK = United Kingdom

EPA = Environmental Protection Agency

ISO = International Standards Organisation

ASTM = American Society of Testing and Materials

AS/NZS = Australian/New Zealand Standards

NACE = National Association of Corrosion Engineers

SSPC = The Society for Protective Coatings

## Application Guide

### Tankguard Special Primer and Mid coat



WFT = wet film thickness

PSPC = Performance Standard for Protective Coatings

IMO = International Maritime Organization

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## Disclaimer

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.

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