



Jotun Protects Property

## APPLICATION GUIDE

### Jotachar JF750

#### PRODUCT DESCRIPTION

Jotachar JF750 is a two component, solvent free, amine cured, epoxy intumescent coating. It has been specially designed to provide passive fire protection for steel in hydrocarbon pool and jet fires for different types of structures and equipment. It is to be used as a mid-coat within a complete system in atmospheric environments. Jotachar JF750 is suitable for use over approved primers on carbon steel, aluminium and stainless steel substrates. This product does not require any additional reinforcing mesh.

Jotachar JF750 has been independently fire tested to ISO 834-3/BS476 Hydrocarbon Fire Test for structures and 'H' class divisions and to ISO 22899 Jet Fire standard. The product is fully compliant to NORSOK System M501 Revision 6 for durability, corrosion protection, water uptake and adhesion. NORSOK control panels have been fire tested to BS467 demonstrating no reduction in passive fire protection performance.

During emergency fire situations, the Jotachar JF750 is initiated by the heat of fire, expanding to form a thick layer of insulating carbon char. The char protects the substrate from the effects of fire for a specific period of time, extending duration to structural collapse. During non-fire situations the product functions as a protective coating providing resistance to corrosion, weather, mechanical shock and a range of chemicals.

In order to achieve the optimum performance of Jotachar JF750, application should be performed by qualified applicators in strict adherence to the instructions within this manual.

Jotun Technical Sales Support team are available to provide the necessary technical support including training, qualification and project follow-up to ensure that Jotachar JF750 is installed in full accordance with the instructions of this manual and any additional project specific requirements.

#### Scope

The Application Guide offers product details and recommended practices for the use of Jotachar JF750.

This guide must be used in conjunction with the relevant technical data sheets and safety data sheets for all the products used as part of the 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.

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## SURFACE PREPARATION

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.

### Pre-treatment and abrasive blast cleaning of fabricated steel prior to coating

#### 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.

#### Metal finishing

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. For areas in corrosive category C5 the requirement is for the steel to conform to grade P3 (ISO 8501-3) Table 1. All edges shall be ground to a minimum radius of 2.0 mm.

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 pre-treatment

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 localised areas of contamination such as dye penetration inks and 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.

**Note:** When the surface is an existing coating, please verify with technical data sheet and application guide of the involved products, both overcoatability and the given maximum overcoating interval.

#### Surface conditions

Soluble salts have a negative impact on the coating systems performance, especially when immersed. Jotun recommends the following maximum soluble salts (sampled and measured as per ISO 8502-6 and -9) content on a surface; 80 mg NaCl / m<sup>2</sup> unless otherwise specified.

#### Shop primers

Shop primers are accepted as temporary protection of steel plates and profiles, however, the shop primer should be completely removed through blasting to minimum Sa 2½ (ISO 8501-1) to a roughness as stated below.

#### Abrasive blast cleaning in general

Measure the achieved profile with surface replication tape (Testex) to ISO 8503-5 or by surface roughness stylus instrument to ISO 8503-4.

Achieved surface roughness should be as required by specified primer. However, this profile should not be less than figures stated below for carbon steel and alloys.

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

Do not handle the prepared surface with bare hands.

Apply the initial coating within 4 hours of completing the blasting before degradation of the surface occurs.

At the completion of abrasive blasting remove residues of abrasive media and inspect for surface particulate contamination. Maximum contamination level is rating 1 (ISO 8502-3) as per Figure 1 of the standard for dust size no greater than class 2.

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Abrasive blasting should not take place under adverse ambient conditions, when relative humidity exceeds 85% or when the steel temperature is less than 3°C (5°F) above ambient dew point.

To avoid contaminating the substrate, the dryness and cleanliness of the compressed air supply used for blast cleaning should be verified by testing the air on a white blotter as per ASTM D5285

### Carbon steel substrates - Abrasive blast cleaning to ISO 8501-1 Sa2½

After pre-treatment is complete, the surface shall be dry abrasive blast cleaned using abrasive media suitable to achieve a sharp and angular surface profile.

A 'near white blast cleaned surface' is required and is defined as;

A near-white blast cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dust, dirt, mill scale, rust, coating, oxides, corrosion products and other foreign matter except for staining (light shadows, streaks or discolorations caused by stains of rust, mill scale or previously applied coatings) limited to no more than 5% of each (80 x 80 mm square) as a unit area of the surface.

### Aluminium and stainless steel substrates - Abrasive blast cleaning to ISO8501-1 Sa1

After pre-treatment is complete, the surface shall be sweep blast (brush off) cleaned as required for the specified surface profile using non-metallic, abrasive media which is suitable to achieve a sharp and angular surface profile.

Sweep (brush off) blast cleaning is defined as; the removal of all loose mill scale, loose rust and loose coating with abrasive blast cleaning.

As a guide, the surface profile should not be less than;

- Aluminium – 50 microns
- Stainless steel – 35-50 microns (1.5-2mils)

### Power tool cleaning - Carbon steel substrates only

Power tool cleaning to St3 ISO8501-1 is the removal of all loose mill scale, loose rust, loose paint and other loose detrimental foreign matter .

St3 ISO8501-1 power tool cleaning is not acceptable as a primary surface preparation for steel. It is only recommended for small areas of repair, typically less than 1m<sup>2</sup> in size where abrasive blasting is expected to create more damage to the coating system than actual benefit to the performance of the coating system.

Overlapping zones to intact coating shall have all leading edges feathered back by sanding methods to remove all sharp 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 overcoating.

**DO NOT** power tool clean aluminium or stainless steel substrates

### Jotachar JF750 surface preparation summary

Operation required	Substrate		
	Carbon steel	Aluminium	Stainless steel
Degreasing	Required	Required	Required
Near white blast cleaning	Required		
Sweep blast cleaning		Required	Required
Power tool cleaning	Optional		
Dust removal	Required	Required	Required
Approved primer system	Required	Required	Required
Blast profile	30-85µm	30-85µm	30-85µm

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## PRIMERS

Only approved and qualified primers can be used in conjunction with Jotachar JF750.

It is the application contractor's responsibility to ensure that only approved primers are used.

For the current list of approved primers please contact your local Jotun Office or [www.jotun.com](http://www.jotun.com)

The applied primer should be:

- Dry and cured enough to stand for overcoating, as per minimum overcoating time stated on manufacturer's TDS.
- Maximum overcoating period stated in manufacturer's TDS should not be exceeded
- Strongly adhered to the steel substrate
- Free from any damage, defects or contamination (including oil, grease, soluble salts and dust)
- Uniform in thickness and within the recommended DFT range (Table. 2)

Dry film thickness and overcoating periods as per manufacturer's instructions must be strictly observed.

It is the responsibility of the PFP applicator installing Jotachar JF750 to assess the condition of the primer coating before Jotachar JF750 is applied. Any defective areas must be repaired prior to application of Jotachar JF750.

## Overcoating periods

The primer manufacturer and Jotun should be consulted for minimum and maximum recommended overcoating times. Refer to specific product technical data sheet for details.

## Inorganic zinc silicates

Due to the special properties of inorganic zinc silicate primers the following should be considered;

- The applied film of inorganic zinc silicate should be fully cured. Curing should be verified by MEK test in accordance to ASTM D4752 with a minimum resistance rating of "4"
- The maximum dry film thickness of inorganic zinc silicate should not exceed 75µm
- An epoxy tie-coat must be used, 25µm dry film thickness is recommended
- Mechanical damages at edges or mud cracking at corners should be repaired using a zinc rich epoxy

Local areas of high primer thickness should be reduced to the recommended thicknesses as per the above table using medium grade emery paper and fresh water to remove the powdery primer residues.

It is the responsibility of the PFP applicator installing Jotachar JF750 to assess the condition of the primer coating before the Jotachar JF750 is applied.

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## APPLICATION

Jotun highly recommends that Jotachar JF750 is applied by heated twin feed spray (plural component) equipment to ensure high productivity and minimum wastage.

**ALL SPRAY EQUIPMENT USED WITH JOTACHAR JF750 MUST BE APPROVED BY JOTUN TECHNICAL SALES SUPPORT TEAM**

### Atmospheric conditions

Prior to application, test the atmospheric conditions in the vicinity of the substrate for the dew formation according to ISO 8502-4, *Guidance on the estimation of the probability of condensation prior to paint application*. Record findings and determine if conditions allow application to proceed.

### Allowable atmospheric conditions - before and during application;

Air temperature	10	to	60	°C
Steel temperature	10	to	60	°C
Relative Humidity	0	to	85	%

The minimum conditions below shall be followed:

- 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

Jotachar JF750 may be applied at lower ambient temperature, down to a minimum of 5°C, if using plural spray equipment. Be aware that this will result in extended drying, curing and overcoating times. Additionally there will be an increased tendency for amine bloom formation during curing which will affect overcoating with topcoats.

### Product mixing ratio

Jotachar JF750	Comp. A	1 part
Jotachar JF750	Comp. B	1 part

The above is true by weight and by volume

### Thinner/cleaning solvent

Recommended thinner / cleaning solvent	Jotun Thinner No. 29
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### Material storage conditions

Jotachar JF750 should be stored in sealed containers, away from direct sunlight and high humidity.

The following are the recommended storage temperature ranges:

- General storage
  - 1°C minimum and 35°C maximum
- Pre-heating for plural component spray application
  - 25-35°C for minimum 12 hours prior to use

Protect product from frost.

Uniform heating of the material is required. Heaters in direct contact with the containers are not recommended, as it may overheat the outer layers of Jotachar JF750 in the container, changing its properties.

Pre-heating the material to 30°C (86°F) is required at lower ambient temperature. In cold weather it is recommended to also place the spray unit in a heated, insulated container.

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## Application by plural (twin pump) airless spray

The following instructions are specified for Jotachar JF750 application using plural component spray equipment and should be strictly adhered to.

### Spray equipment

Is a compact unit consists of the following major components;

- Metering pump with two equal sized liquid ends or legs, one leg for component "A" and one for component "B". (Fixed ratio equipment)
- Two metering pumps with one liquid end or leg, one for component "A" and one for component "B" (Digital variable ratio equipment i.e. Graco XM)
- Two ram assisted shovel airless supply pumps, one for each component
- Two heated and pressurised storage tanks equipped with pneumatic or electrical agitators, one for each component
- In-line electrical heaters to heat up the material components.
- Hot water circulation
- Flush pump
- Insulated heated spray line
- Remote mixing manifold and static mixer
- High pressure spray gun
- High pressure safety shut down system

Also some units are equipped with the following:

- Ratio monitoring system to shut down the unit when metering pump is out of ratio
- Optical level control for the material tanks with automatic refill

**Jotun should always be consulted regarding the suitability of any proposed equipment**

### Summary of operating parameters for plural component spray;

<b>Component tank temperatures</b>	Component A : 40°C (104°F) Component B : 45°C (113°F)
<b>Component tank pressures</b>	Component A : 4.15 bar (60 psi) Component B : 5.55 bar (80 psi)
<b>Component tank stirrer speed</b>	Component A : 6 rpm Component B : 10 rpm
<b>In-line heater temperatures</b>	Component A: 45°C (113°F) Component B: 50°C (122°F)
<b>Hose heater temperature</b>	60-70°C (140-158°F)
<b>Gun exit temperature</b>	45-50°C (113-122°F)
<b>Metering pump pressure</b>	240-320 bar(3500-4500 psi)
<b>Fluid line diameter</b>	Component A: ¾" I.D. Component B: ¾" I.D.
<b>Spray tip</b>	0.035 – 0.041 orifice 30° - 50° fan angle

**The above setting parameters of temperature, pressure and stirring speed are for guidance only and might vary depending on the ambient condition and equipment used.**

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## Weight ratio checks

The weight ratio check is a method of ensuring that the metering pump is delivering the product at the correct mixing ratio. Regular monitoring of this is essential and required. As an absolute minimum, a ratio check by weight should be performed at the start-up of each shift and again if the machine is shut down and restarted for any reason.

However, it is advisable to perform a ratio check every 4 (four) hours.

The mixing ratio of Jotachar JF750 component A : B is 1 : 1 by volume and by weight. It is this ratio that should be maintained.

## Weight ratio checks procedure;

- The ratio check should only be performed once both components have attained the required temperatures to spray
- Set the metering pump air motor pressure to 2.8 bar (40 psi)
- Empty approximately 10-15 kg of component "A" and 10-15 kg of component "B" into separate, clean containers from the pressure release (Dump) valves located on the mixing block, in order to remove any cold material from the lines. (This material can be used again either back into machine or hand application)
- Weigh clean, empty containers for components "A" and "B" and record the weights
- Place the containers under the ratio check valves and open the valves at exactly the same time
- Close the valves when the Component "A" container is at least half full. Valves should be closed at exactly the same time
- Calculate the net weight of each component by subtracting the weight of the empty containers
- Calculate the ratio of Part "A" to Part "B" as a percentage of the total weight

Note: Some plural spray equipment's have other methods of taking ratio checks. Please follow machine manufactures guidelines for taking ratio checks

## Example of a weight ratio check:

Designed mix ratio for Jotachar JF750 is **1: 1 by weight of Comp A : Comp B**

<b>Empty container weight</b>	Component A	2.3Kg
	Component B	2.3Kg
<b>Full container weight</b>	Component A	12.4Kg
	Component B	12.3Kg
<b>Net weight of Jotachar JF750</b>	Component A	9.9Kg (x)
	Component B	10Kg (y)
<b>Weight ratio = x/y</b>	<b>0.99/1</b>	

The acceptable mix ratio range of component A to component B is  $\pm 10\%$  of designated ratio

- **0.90 : 1** minimum
- **1.10 : 1** maximum

In addition to the ratio checks, it is also important to constantly check metering pump pressure gauges and the grey colour shade of the mixed Jotachar JF750.



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## Spray application

Spray application should not start unless the weight ratio check is within  $\pm 10\%$  of the designated ratio

After checking and confirming acceptability of the mix ratio, it is not recommended to alter or change any of the operating parameters of the plural spray unit except the metering pump air motor inlet pressure.

Proper atomisation should be achieved by adjusting the metering pump pressure within 240–320 bar (3500-4500 psi).

Spray application should be performed with the spray gun at right angles to the substrate. Apply in parallel paths, overlapped at 50%, with constant speed and distance in order to achieve a uniform thickness.

The spray unit delivers a high volume of material (up to 345 cm<sup>3</sup> per cycle), the crew size should be large enough to finish the sprayed material surface by trowelling or rolling **when required**.

Trowelling may not be required providing that the material atomisation is sufficiently good enough to achieve consistent, even spray fan without fingering.

Rolling the material with a short nap roller wetted with Jotun thinner number 29 solvent will remove trowel marks and high points and can also be used to obtain a smooth finish

Trowelling and rolling should be conducted within 30 minutes of spray application.

It is possible to apply Jotachar JF750 in one coat of up to 12mm thickness. However, a thickness of 6mm is recommended as this affords the optimum compromise between film build, finish and thickness control.

After spraying, immediately flush out the mixed material from the static mixer and spray line (whip end) with hot water using the flushing pump, for long storage or maintenance of the spray unit it is recommended to use Jotun thinner number 29 to dissolve and flush out the material residues.

## Single leg airless spray application

For small sized applications of Jotachar JF750, a modified single leg airless spray unit can be used.

The following instructions are specified for Jotachar JF750 application using single leg airless spray and must be strictly followed.

### Spray equipment

A modified single leg airless spray pump can be used for the application of Jotachar JF750 dependant on the following criteria being met;

- Minimum 73:1 pumping ratio
- Equipped with ram feed plate and wiper to fit the size of the drum
- The recommended fluid line I.D. is ¾" and the length should not exceed 15m (50 feet)
- A whip end line of ½" I.D. and 4.5 m (15 feet) length can be added to the spray line
- A 30 - 50° fan angle and 0.035" to 0.041" orifice spray tips are recommended

**Jotun should always be consulted regarding the suitability of any proposed equipment**

### Mixing

Premixing and 'thinning' is required for application with a single leg airless spray pump. A small amount of Jotun thinner number 29 is added (not more than 5%) to reduce viscosity for mixing and spraying.

A high torque variable speed, paddle paint mixer (mounted on a power ram base) is required for mixing.

At low ambient temperature, it is recommended to pre-heat the material up to 25-30°C (77-86°F) prior to mixing.

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- Up to 1 litre of thinner may be used per 21 kg kit of Jotachar JF750. Add this into Component "A" and mix thoroughly. Add thinner accurately, do not add 'by eye'
- Add component "B" into the component "A" container, scraping the sides of component "B" container to empty it completely. Only ever mix full kits when spraying
- Mix the two components together until a uniform grey coloured material is obtained.
- During mixing, care should be taken to scrape the material from the walls of container into the center
- Care should be taken not to mix more material than can be applied within the pot life of Jotachar JF750

The volume solids of Jotachar JF750 is 100%. In the case of 1 litre thinning, the new volume solids will be 95%. This should be taken into account when measuring wet film thickness and calculating dry film thickness

### Spray application

Jotachar JF750 can be applied at 3-5 mm thickness per coat using modified single leg airless depending on the material temperature, the thinning percentage, ambient and substrate temperature.

Spray application should be performed with the spray gun at right angles to the substrate. Apply in parallel paths, overlapped at 50%, with constant speed and distance in order to achieve a uniform thickness.

Trowelling and rolling may be conducted as per Application by plural (twin pump) airless spray (p10)

When using modified single leg airless spray equipment ensure the pump, lines and gun are fully flushed with thinner after spraying stops for a prolonged period.

### Manual application

For touch up and repair application, Jotachar JF750 can be applied manually, i.e. by trowel.

The following instructions are specified for manual application of Jotachar JF750 and must be strictly adhered to.

### Mixing

See Mixing section within Single leg airless spray application (p10)

Usually manual application requires less than a full kit of Jotachar JF750. Therefore, the required amounts of Component "A" and "B" should be accurately weighed according to the correct mixing ratio and thoroughly mixed. Clean and dry containers should be used.

Care should be taken not to mix more material than can be applied within the pot life of Jotachar JF750.

As the mix ratio of Jotachar JF750 is 1 : 1 by weight it is very simple to ensure that the correct ratio is obtained. Simply ensure that equal weights of components "A" and "B" are used.

### Application

Jotachar JF750 is applied manually using a plastering trowel or similar and then smoothed off using a short nap roller wetted with Jotun thinner number 29 solvent. Rolling should be conducted within 30 minutes of initial application.

### Surface finish

A number of different surface finishes are achievable with Jotachar JF750.

Before the start of any application, it is recommended that all interested parties agree on the required surface finish. The applicator should spray and finish a sample area acceptable to the client representative. This area should be used as a reference area for the project.

The spray applied film should be closed and uniform in thickness, free from voids and sagging.

Horizontal surfaces should be finished with a slight slope to avoid water pooling in case of rain or dew condensation.

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## Water contamination

When uncured material is subjected to rain or excessive condensation, water may be absorbed. Also, amine blushing may form on the surface adversely affecting the inter-coat adhesion.

In case of water contamination of uncured Jotachar JF750, the following action should be taken;

- Allow the material to cure
- Dry and wipe the surface with solvent
- Remove uncured material
- Repair the affected area (As per Repair of coating section, p15)

## Exposed top flanges

The coating of the top flanges is not required as per some project specifications.

In this case, appropriate procedures should be considered and agreed on between all concerned parties to ensure correct terminations of Jotachar JF750 application at the top flange.

## Coat back

The application of Jotachar JF750 should extend through the unprotected or secondary steelwork for 450mm in order to prevent heat transfer into protected or primary steel work during fire situation. The point of measuring this extension is the point of contact of protected with unprotected steel work.

Coat back is not required for the following structures providing that the cross sectional area is less than 3000 mm<sup>2</sup>;

- Secondary structural members and attachments that less than 1 meter length.
- divisions less than 1m<sup>2</sup> area

If a different coat back distance is required by the project specification or classification societies, consultation with the design engineers or classification society should be considered.

## Thickness control and measurement

Achieving the specified dry film thickness (DFT) for each member of the structure is essential in order to achieve the required fire rating.

Film thickness	Minimum	Maximum	Typical
Dry film thickness microns (µm)	2000	10,000	6000
Wet film thickness microns (µm)	2000	10,000	6000

The nominal DFTs mentioned above are per coat. Final applied coating may involve several coats and will be specified as per the required fire rating.

### Wet film thickness (WFT)

Regular checking of wet film thickness during application is required to control the applied thickness, it is recommended to use a pre-cut bridge gauge (dipper) of 50 mm width made from a putty knife to measure the wet film thickness. For accurate measuring, the gauge should just touch the surface of the applied material. Jotachar JF750 is a solvent free epoxy of 100% solids; applied wet film thickness will be equal to dry film thicknesses. All members of the application team (sprayer, troweller, rollers) should be using these dippers to ensure the required film thickness is achieved and maintained.

### Dry film thickness (DFT)

When the coating has cured the dry film thickness can be checked to ISO19840, or equivalent standard. There are two principal methods for measuring the thickness of thick film epoxy PFP;

#### 1. Destructive method

Straight holes (1.5-2 mm diameter) are drilled through the applied film of PFP to the substrate, and then the film thickness is measured using a calibrated depth gauge. The holes should be marked and repaired after the measurement.

This method is not recommended as it is time intensive and causes damage to the PFP and primer.

#### 2. Non-destructive method

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An electromagnetic or ultrasound dry film thickness gauge is used to measure the dry film thickness of the applied system. Care must be taken to follow the equipment manufacturer's instructions. Any equipment used should have a valid calibration certificate.

This is the recommended method for assessing dry film thickness of the applied system as it is fast, accurate and does not cause any damage.

### Frequency of measurements

The measurements should be taken in a frequency as per the project specification requirements. It is advisable not to take any measurements within 25mm of any edges or corners of structures. This should be considered as guidance only.

#### Structural steelwork

On open profile sections a minimum of one reading should be taken every linear meter along the length of each coated side.

For closed profile sections (e.g. circular hollow sections) readings should be taken every linear meter on four points at equal distance around the circumference.

#### Flat plates, vessels, decks and bulkheads

On flat plates, vessels, un-stiffened decks and bulkheads, a minimum of two readings should be taken every one square meter.

For stiffened decks and bulkheads, readings should be taken every one linear meter intervals along the length of the flat area between the stiffeners. The stiffeners should be measured as per profile sections.

### DFT acceptance criteria

The following are Jotun recommended criteria for DFT acceptance and should be used in conjunction with the project specification and requirements. In case of any conflict, the project specification should always take precedence.

The average of all single readings in the defined area should be equal to or higher than the specified DFT of Jotachar JF750.

#### Minimum thickness

If a single low reading less than 80% of the specified DFT is found, additional readings should be taken around that low reading. If more low readings are found, then further readings should be taken to investigate the extent of the low area. The low area should be marked and brought up to the specified thickness.

Individual thickness readings of less than 75% of the specified thickness are not acceptable.

#### Maximum thickness

Areas of over-application of Jotachar JF750, above the specified DFT, do not normally create a problem, providing there has not been any solvent thinning.

However, the average of all readings in the defined area should not exceed the specified thickness by more than 10% with no individual readings of more than 50% of the specified thickness.

Any areas exceeding these criteria should be confirmed with Jotun and approved by the client.

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## Pot life, drying / curing time and overcoating / recoating intervals

### Pot Life

Paint temperature	5°C	10°C	15°C	23°C	40°C
Pot life (hours)	~	~	60 mins	45 mins	~

### Drying / curing time and recoating intervals

Substrate temperature	5°C	15°C	23°C	40°C
Surface (touch) dry	6 h	3 h	1 h	1 h
Walk-on-dry	24 h	12 h	6 h	3 h
Dry to recoat, minimum	6 h	3 h	2 h	1 h

Surface (touch) dry	The state of drying when slight pressure with a finger does not leave an imprint or reveal tackiness.
Walk-on-dry	Minimum time before the coating can tolerate normal foot traffic without permanent marks, imprints or other physical damage
Dry to recoat minimum	The shortest time allowed before the next coat can be applied

Drying times are influenced by air circulation, air and substrate temperature, relative humidity, film thickness and the number of coats. The figures here are typical with;

- Good ventilation
- Typical film thickness
- One coat on top of inert substrate
- Around 50% RH

The given data must be considered as guidelines only. The actual times may be shorter or longer, depending on factors such as; film thickness, ventilation, humidity, underlying paint system, requirement for early handling and mechanical strength, etc. A complete system can be described on a system sheet, where all should the maximum over coating interval be exceeded, then the surface should be roughened with rough discs or by abrasive sweeping. The surface should be clean, dry and free from contamination. Oil and grease should be removed in accordance with SSPC-SP1 solvent cleaning.

### Maximum overcoating intervals

Substrate temperature	5°C	15°C	23°C	40°C
Recoated with self	Extended	Extended	Extended	Extended
Polyurethane	Extended	Extended	Extended	Extended
Epoxy	Extended	Extended	Extended	Extended
Epoxymastic	Extended	Extended	Extended	Extended
Polysiloxane	Extended	Extended	Extended	Extended

Jotachar JF750 has the ability to withstand exposure to severe environments and weather conditions without a protective topcoat and has been tested to the most stringent industry standards. However, Jotachar JF750 is available in a matt grey colour only, therefore, a top coat may be required to meet an owner's colour scheme.

There can also be specific areas where top coating of Jotachar JF750 is recommended. Examples of these are:

- Splash zone areas
- In areas of high intensity UV exposure Jotachar JF750 may chalk (A general characteristic of all epoxy coatings)

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- Areas of high and continuous moisture exposure, such as the upper surfaces of horizontal decks and flanges

Theoretically, as long as Jotachar JF750 is free from chalking and other forms of contamination, there is no overcoating time limit. Practically, maximum top coating time interval depends on the type of top coat and environmental exposure, the top coat manufacturer should be consulted.

Before top coating, Jotachar JF750 surfaces should be clean, dry, and free from contamination.

Excessive rolling with Jotun thinner number 29 solvent may cause amine blushing on the surface of Jotachar JF750. The surface must be suitably washed prior to topcoat application.

Any topcoat used should be preapproved by Jotun Technical Sales Support, while the generic type of the topcoat may fit the description in the over coating table, the specific topcoat should still be tested for adhesion.

## REPAIR OF COATING

### Removal

Once applied and cured Jotachar JF750 can be removed if required.

- A disc grinder should be used to cut through the coating to the substrate
- The material can then be removed with a pneumatic chisel, or manually using a hammer and chisel. Care should be taken not to damage the steel substrate.
- Other means of removal may also be considered, please consult Jotun Technical Sales Support.

### Weld Cutback

Jotachar JF750 should be removed prior to welding. The extent of the cutback varies depending on the nature of welding operation.

For small weld operations, e.g. welding of clips or similar fixation, initially remove 100 - 150 mm in all directions from welding area, on both sides of the steel. After completion of welding, if any blistering or discoloration of Jotachar JF750 has occurred, the cutback should be extended 50mm beyond these defects.

For larger weld operations, e.g. welding of a pipe support or similar structure, initially cutback 200 - 250 mm in all directions from welding area, on both sides of the steel. After completion of welding, if any blistering or discoloration of Jotachar JF750 has occurred, the cutback should be extended 75mm beyond these defects.

In the case of welding of pre-coated structure members, a welding cutback allowance is recommended to avoid removing and damaging the applied Jotachar JF750, initially a cutback of 300-350 mm either side of the weld is required for welding processes which do not require preheat.

For welding processes which require preheat, the cutback allowance depends on the preheat temperature and duration, please consult Jotun Technical Sales Support.

### Repair of Damaged Areas

Repair of damaged areas requires complete removal of those areas and restoration of the complete system 'as new'. This includes surface preparation and primer installation.

The following repair procedure is recommended:

- The adjacent border area should be checked to confirm integrity of material and adhesion. Any defective material should be removed
- Squaring the repair area is recommended if possible
- Feather the edges of the repair area at an angle of approximately 45° up to 50 - 75 mm using grinding disk (overlapping area)
- Restore the cleanliness, degree of surface preparation and surface roughness of the substrate as per the original specification requirement.

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- Small areas (e.g. welds and local repair areas) may be prepared by power tools to ST 3 (ISO 8501-1) or SSPC-SP3 cleanliness degree, providing that the primer is compatible with these degrees of surface preparation
- Power tools should not be used as a primary surface preparation method for large areas
- Apply the specified primer at the recommended thickness, Jotachar JF750 can be applied directly to the metal substrate in case of small repairs providing that the substrate is prepared up to Sa2½ (ISO 8501-1)
- Apply Jotachar JF750 at the specified thickness as per the product application instructions to the repair area including the feathered edges
- Manual application is acceptable at the repair areas providing that a smooth finish is achieved by rolling the surface
- Apply the specified topcoat at the recommended thickness as per the product application instructions

### QUALITY ASSURANCE

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

- Confirm all welding and other metal work has been completed before commencing pre-treatment and surface preparation of the substrate
- 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 PAG and held during the application
- 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 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, blistering, obvious pinholes, excessive dry spray 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 applicator should be trained and certified by Jotun, experienced and have the capability and equipment to apply the coatings correctly and to the specification. Applicators should have and use PPE when using this product.

This guide is given based on the current knowledge of the product. Any suggested deviation to suit the site conditions should 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 breathe or 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.

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## Accuracy of information

Always refer to and use the current (last issued) version of the TDS, SDS and AG for this product. Always refer 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

This Application Guide (AG) shall be read in conjunction with the Technical Data Sheet (TDS) and Safety Data Sheet (SDS) for this product.

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	g/kg :	Grams per kilogram	DFT :	Dry film thickness
h :	Hours	m <sup>2</sup> /l :	Square metres per litre	UV :	Ultra violet
d :	Days	mg/m <sup>2</sup> :	Milligrams per square metre	TDS :	Technical data sheet
° C :	Degrees celsius	Bar :	Unit of pressure	AG :	Application guide
° :	Unit of angle	psi :	Unit of pressure, pounds/ inch <sup>2</sup>	SDS :	Safety data sheet
µm :	Micrometres	RH :	Relative humidity	VOC :	Volatile organic compound
g/l :	Grams per litre	WG :	Winter grade	MCI :	Multi-colour industry
Std:	Standard	WFT :	Wet film thickness	RAQ :	Required air quantity

EU :	European Union	NACE :	National Association of Corrosion Engineers
UK :	United Kingdom	SSPC :	The Society for Protective Coatings
EPA :	Environmental Protection Agency	PSPC :	Performance Standard for Protective Coatings
ASTM :	ASTM International	IMO :	International Maritime Organization
ISO :	International Organisation for Standardisation	PPE :	Personal Protective Equipment
AS/NZS :	Australian – New Zealand Standards		

## DISCLAIMER

The information in this document is given to the best of our knowledge, based on laboratory testing and practical experience. Coating and paint products are considered as semi-finished goods and as such, products are often used under conditions beyond our 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 of Functional Coatings 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 (UK) version will prevail.

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