



Jotun Protects Property

ONBOARD MAINTENANCE
PAINT GUIDE

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A practical Onboard
Maintenance Paint Guide

The purpose of this guide is to provide easy and practical support on how to plan onboard maintenance, and the safe and efficient process of paint application.

Onboard maintenance is often carried out at short notice without a great deal of planning. This may lead to an insufficient coating result. By having a well planned and executed Onboard Maintenance Program, the appearance and the performance of the coating will meet your expectations. As a result, maintenance intervals will be longer and the vessel will have a better cosmetic appearance throughout its lifetime. Long term paint consumption and maintenance cost will be reduced and the crew will spend less time on paint jobs. Ultimately, vessel lifetime can be prolonged and cost during dry-docking will be reduced.

1.0

INSPECTION AND PLANNING



Be sure to set aside enough time for the crew to do the job.



1.1 Evaluation

Divide the vessel maintenance into smaller manageable areas.

Evaluate the condition of the area designated for maintenance and the extent of defects that needs to be repaired. Refer to the Onboard Maintenance Manual's (OMM) maintenance chart for suitable paint for the area to be painted. Check type of existing coating in order to assure paint compatibility, refer to Technical Data Sheet (TDS).

1.2 Calculation

Calculate the expected volume for the area by using the Onboard Maintenance Manual paint calculator. Consult the TDS for recoating intervals. Make sure you have sufficient volumes of all paint types needed for the job.



Weather conditions

Take into consideration current weather conditions, forecast and the time of day. The temperature of the substrate should be minimum 3°C above the dew point of the air to avoid condensation. Remember to include risk of condensation also after the paint is applied.



Recording

Keep a record of what type of paint you apply to the different areas and the volume used.



Safety

Read the Safety Data Sheets (SDS) for the products before application. Make sure all Health, Safety and Environmental (HSE) requirements and recommendations concerning paint application are followed.

2.0



Consult the Safety Data Sheet (SDS), available for all products.

HEALTH, SAFETY, ENVIRONMENT

Health

- Avoid breathing in the vapours/fumes by working in ventilated areas, and if necessary use respirator mask.
- Use safety goggles or glasses.
- Avoid skin contact by wearing gloves and boiler suit.

Safety

- Store the paint in a dry shaded area, preferably in the paint locker.
- Assess and secure the area to be repaired for flammable liquids or gases that may ignite when using mechanical power tools.
- Be sure to have good ventilation during painting operations.
- Remove all naked lights and unprotected electrical equipment while painting.

Environment

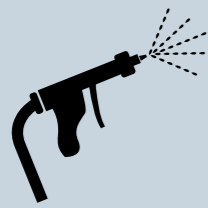
- Do not allow the spillage of paint residues to enter drains or water sources.
- Material and container must be disposed as hazardous waste.

Recommended Personal Protective Equipment



3.0

SURFACE PREPARATION



3.1 Cleaning

Clean all surfaces using water soluble detergent and high pressure fresh water. Remove salt, oil, grease, loose coating, dirt and detergent prior to de-rusting.



3.2 De-rusting

When de-rusting, turn smaller patches of rust into one larger area by removing the paint between the rust patches. Remove rust manually or mechanically by use of power tools. Mechanical removal is recommended as it offers higher efficiency and better results.

Work to limit edges as these are often a weak spot. Edges are recommended to be feathered. This is done by grinding or sanding the edges to create a diagonal shape.

Avoid smooth surfaces to secure adhesion.

3.3 Remove particles

After de-rusting remember to remove all particles etc. from the prepared surface prior to painting. If possible, use the working air available on deck.

3.4 Avoid contamination

Paint immediately after the surface is prepared – in order to avoid contamination, increased salt levels and flash rust on bare metals.

In case of contamination

If the surface is contaminated prior to painting, a final wash is recommended. Use high pressure fresh water. Alternatively hose down thoroughly with fresh water combined with manual scrubbing.



Power tools:

- Power grinding
- Needle gun
- Sand blasting
- Rotary wire brushing
- Rotary discs
- Bristle blasting



Manual tools:

- Rust-pickers
- Scrapes
- Chipping hammers or chisels
- Wire brushing

4.0

PREPARATION OF THE PAINT



Consult the TDS for the correct mixing ratio and the correct hardener.

One component paint

For one component paint, be sure to stir the paint using a mechanical mixer for minimum two minutes, until the paint is homogeneous before use.



Two component paint

When part mixing a pre-calculated volume, measuring can be done by using a scoop/cup or a measure stick. Consult the TDS for the correct mixing ratio. Stir both component A (base) and component B (curing agent) separately before adding them together in a clean tin. Then stir the two components together for minimum two minutes, until you have a homogeneous mixture, using a mechanical mixer. If stirring is done manually, more time is needed.

Thinning

Jotun Smart Pack products are tailor made for brush and roller application, therefore thinning is not needed. For other paint types, follow TDS guidelines.

Induction

Adhere to induction time and pot life stated in the TDS before applying the paint.

5.0

PAINT APPLICATION



Ensure surface is dry and free from contamination prior to application of the subsequent coat.



Paint brush

For pitted and difficult to reach areas and for primer application direct on steel, brush application is recommended.

- Good quality natural fibre or synthetic brushes.
- Brushes must be clean before re-using them for other different paints.
- Dip the brush often to keep it well filled with paint.
- Do not dip the brush deeper than half the length of its hairs.
- On flat, vertical surfaces, apply the last stroke of paint in a vertical direction to reduce sagging.

Spray gun

For larger jobs, we recommend to use a spray gun. Do not use an airless spray for applying stripe coats. Check pressure at nozzle, nozzle size, spray angle and that the filter is clean prior to application.



Paint film thickness

Consult the TDS for the specified wet and dry film thickness. Too low film thickness gives poor protection and too thick film thickness may result in loss of adhesion, cracking and solvent entrapment.



Roller

When paint application is done with a roller, use a roller board to assure an even distribution of paint on the roller. Pitted areas should be touched up by brush before roller application.

- Rollers must be clean.
- Phenolic rollers with short hair are recommended.
- Dip the roller often to keep it well filled with paint.
- Over rolling can cause paint pick up, specially associated with fast drying paint.
- Finish by rolling in one direction to ensure a uniform finish.



IMPORTANT!

Paint application should not be done under these conditions:

- During rain, high humidity (above 85%), snow, mist and fog.
- On surface wet with condensation. Condensation occurs when the steel temperature is below the dew point of the atmosphere. Make sure the steel temperature is at least 3°C higher than the measured dew point.
- The substrate temperature is under the minimum drying limit of the coating. (Refer to TDS)
- Untreated or contaminated surface.
- If dry to recoat maximum painting interval is exceeded or not achieved. (Refer to TDS)

6.0

STOCK KEEPING



✓ Updated manual

Be sure to have the Onboard Maintenance Chart and an Onboard Maintenance Paint Guide available in the paint locker at all times.

✓ Labeling

Label the racks and shelves with the right products.

✓ Consulting

Always consult the Technical Data Sheet for expiry day of the paint. Be sure to follow first in first out principle to avoid expiration of the paint.

✓ Availability

Have available a mechanical mixer, spray equipment and good quality brush and rollers. In addition ensure there is a choice of equipment to treat defected areas and suitable detergents.

✓ Properly closed

To keep product quality and avoid contamination, used/opened paint drums must be properly closed after use. Where two component products have been mixed, leave it to go hard and dispose in the authorized manner.

✓ Inventory control

Keep count of the ratio stored of A- and B- components for two component products. If the amount of B- components does not correspond with the amount of A-components left in the paint locker at any given time, chances are that the mixing is not correct.

✓ Cleaning

All equipment, mixers, spray pumps, brushes etc. should be cleaned as soon as possible after use.

