

Hardtop Peelable

Product description

This is a one component, waterborne physically drying coating for temporary protection against a wide range of contaminants and light mechanical wear. It has a matt finish. It has good welding spatter resistance and good flame spread resistance. Dries down to 5 °C. Suitable for coated substrates. It has excellent peel-off properties after a period of outdoor exposure.

Scope

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

The data and information provided are not definite requirements. They are guidelines to assist with efficient and safe use, and optimum service of the product. Adherence to the guidelines does not relieve the applicator of responsibility for ensuring that the work meets specification requirements. Jotun's liability is in accordance with general product liability rules.

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.

For best result, the substrate should be clean, dry and free from adhering contamination.

It is strongly recommended that a small test patch is carried out on a representative area prior to full project application. This is to ensure compatibility with the underlying substrate in terms of peeling, in-service suitability and level of temporary protection required.

Coated surfaces

It is important that finishes to be over coated have undergone sufficient cure to ensure important properties such as gloss and colour. This is particularly important for durable cosmetic finishes and ensures that they are not affected by the application of Hardtop Peelable.

For further advice please contact your local Jotun office.

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.

Air temperature	5 - 50	°C
Substrate temperature	5 - 40	°C

Relative Humidity (RH) 10 - 75 %

The following restrictions must be observed:

- Only apply the coating when the substrate temperature is at least 3 °C (5 °F) 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

Single pack

The product may during storage form skin on top, in the can. This skin can be removed and discharged, and will not affect the properties of the remaining product.

Thinner/Cleaning solvent

Do not add thinner.

Cleaning solvent: Water

Application data

Spray application

Airless Spray Equipment

Pump ratio (minimum) :	32:1
Pressure at nozzle (minimum) :	150 bar/2100 psi
Nozzle tip (inch/1000) :	17-21
Nozzle output (litres/minute) :	1.3-1.9
Filters (mesh) :	70

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

- extended hoses or hose bundles
- extended hose whip-end line
- small internal diameter hoses
- high paint viscosity
- large spray nozzle size
- inadequate air capacity from compressor
- incorrect or clogged filters

Other application tools

Brush application

Use Hardtop Peelable TU.

Film thickness per coat

Typical recommended specification range

Dry film thickness	125 - 250	µm
Wet film thickness	285 - 570	µm
Theoretical spreading rate	3.5 - 1.8	m ² /l

Peeling-off performance may be affected when lower DFT range than specified is applied. Keeping the recommended DFT range is essential.

Film thickness measurement

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). The measurements should be done as soon as possible after application.

Fast drying paints may give incorrect (too low) readings resulting in excessive dry film thickness. For multi layer physically drying (resoluble) coating systems the wet film thickness comb may give too high readings resulting in too low dry film thickness of the intermediate and top coats.

Use a wet-to-dry film calculation table (available on the Jotun Web site) to calculate the required wet film thickness per coat.

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 mm from the weld.

Ventilation

Sufficient ventilation is very important to ensure proper drying/curing of the film.

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

Pre-commissioning considerations

Ultimate dry film hardness will be reached later than the time stated for dried/cured for service. Suitable procedure for stacking of coated products must be considered, depending on environmental conditions.

Drying and Curing time

Substrate temperature	5 °C	10 °C	23 °C	40 °C
Surface (touch) dry	30 min	30 min	25 min	10 min
Walk-on-dry	100 min	80 min	60 min	30 min
Dry to over coat, minimum	*	*	*	*
Dry to over coat, maximum, atmospheric	extended	extended	extended	extended

* Dry to over coat, minimum, atmospheric - Refer to the Application Guide (AG) for additional information.

This product shall only be applied on top of completed coating systems.

Fresh coating should not be exposed to rain or water until 24 hours after application.

Drying time is dependent on degree of ventilation. Lower ventilation gives longer drying time.

Minimum peel time: 23 °C 1 h

This is the shortest time before the coating can be peeled off by hand, in large sheets.

The maximum time before peeling off is dependent on the actual film thickness, the exposure condition and the exposure time. It is required to apply test areas for periodic check of ease of peeling.

Drying and curing times are determined under controlled temperatures and relative humidity below 75 %, and at average of the DFT range for the product.

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 over coat, minimum: The recommended shortest time before the next coat can be applied.

Dry to over coat, maximum, atmospheric: The longest time allowed before the next coat can be applied.

Minimum over coating intervals

Minimum time before thorough surface preparation is required. The surface must be clean and dry and suitable for over coating. Inspect the surface for chalking 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 by low-pressure water cleaning using fresh water.

Areas for atmospheric exposure

Average temperature during drying/curing	5 °C	10 °C	23 °C	40 °C
Primers:				
Jotacote Universal N10	2 d	2 d	1 d	1 d
Penguard Universal	2 d	2 d	1 d	1 d
Penguard HB II	5 d	5 d	2 d	1 d
Jotacote F60	7 d	7 d	2 d	3 d
Epoxy HR	2 d	2 d	1 d	2 d
Jotatemp 250	2 d	2 d	1 d	1 d
Jotaprime 500	2 d	2 d	1 d	1 d
Penguard FC	5 d	5 d	3 d	2 d
Jotamastic 90	4 d	4 d	2 d	2 d
Jotacote Universal	2 d	2 d	1 d	1 d
Marathon 550	4 d	3 d	2 d	1 d

Jotatemp 1000 Ceramic	3 d	3 d	2 d	1 d
Penguard Pro GF	2 d	2 d	2 d	1 d
Topcoats:				
Hardtop AX	2 d	2 d	1 d	1 d
Hardtop AX K	2 d	2 d	1 d	1 d
Hardtop AX II	2 d	2 d	1 d	1 d
Hardtop WT8	3 d	3 d	2 d	2 d
Megagloss AC	NA	NA	14 d	NA
Megagloss HG	NA	NA	5 d	NA

Maximum over coating intervals

Maximum time before thorough surface preparation is required. The surface must be clean and dry and suitable for over coating. Inspect the surface for chalking 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 by low-pressure water cleaning using fresh water.

If maximum over coating interval is exceeded the surface should in addition be carefully roughened to ensure good inter coat adhesion.

Areas for atmospheric exposure

Average temperature during drying/curing	5 °C	10 °C	23 °C	40 °C
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Itself	extended	extended	extended	extended
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For further information please contact your local Jotun representative.

Other conditions that can affect drying / curing / over coating

Water/Moisture contamination

If the wet coating is exposed to relative humidity above 75% or to moisture before the coating is at least Walk-on-dry, then blushing may occur. Blushing will cause fading of bright colours, and will affect the gloss. Provided the coating is fully dried/cured the protective properties will not be affected. All affected areas should be lightly sanded, cleaned and recoated.

Repair of coating system

Damages to the coating layers:

Square off repair area to prevent fray ends to continue to peel. Prepare the area through sandpapering or grinding, followed by thorough cleaning/vacuuming. When the surface is clean and dry the coating may be over coated by itself or by another product, ref. original specification. Caution should be taken to ensure, repairs overlap sound and intact film to present a continuous film.

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:

Square off repair area to prevent fray ends to continue to peel. Remove all rust, loose paint, grease or other contaminants by spot 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. Caution should be taken to ensure repairs overlap sound and intact film, to present a continuous film.

Quality assurance

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

- Confirm that all welding and other metal work has been completed before commencing pre-treatment and surface preparation
- Confirm that installed ventilation is balanced and has the capacity to deliver and maintain the RAQ
- Confirm that the required surface preparation standard has been achieved and is held prior to coating application
- Confirm that the climatic conditions are within recommendations in the AG, and are held during the application
- Confirm that the required number of stripe coats have been applied
- Confirm that each coat meets the DFT requirements in the specification
- Confirm that the coating has not been adversely affected by rain or other factors during curing
- Observe that 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° angle
- Observe that the coating is free from defects, discontinuities, insects, abrasive media and other contamination
- Observe that the coating is free from misses, sags, runs, wrinkles, fat edges, mud cracking, blistering, obvious pinholes, excessive dry spray, heavy brush marks and excessive film build
- Observe that the uniformity and colour are satisfactory

All noted defects shall 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

When applicable, products primarily meant for use as primers or antifouling may have slight colour variations from batch to batch. Such products and epoxy based products used as a finish coat may chalk when exposed to sunlight and weathering.

Colour and gloss retention on topcoats/finish coats may vary depending on type of colour, exposure environment such as temperature, UV intensity etc., application quality and generic type of paint. Contact your local Jotun office for further information.

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
m²/l = square metres per litre
mg/m² = milligrams per square metre
psi = unit of pressure, pounds/inch²
Bar = unit of pressure
RH = Relative humidity (% RH)
UV = Ultraviolet
DFT = dry film thickness
WFT = wet 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
PSPC = Performance Standard for Protective Coatings
IMO = International Maritime Organization
ASFP = Association for Specialist Fire Protection

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.
