Hardtop Flexi

Product description

This is a two component chemically curing aliphatic acrylic polyurethane coating. It has a glossy finish with very good gloss retention. It is a high solids, high build product. It is fast drying. It can be used direct to metal. The coating is highly flexible, impact resistant and has excellent adhesion. To be used as topcoat in atmospheric environments.

Typical use

Marine:
Recommended for topside, container deck and superstructure.

Protective:
Recommended for offshore environments, refineries, power plants, bridges and buildings. Suitable for a wide range of industrial structures.

Approvals and certificates

Grain, Newcastle Occupational Health
Food, Compliant with USA, FDA Title 21, Part 175.300 for dry solids

When used as part of an approved scheme, this material has the following certification:
- Low Flame Spread in accordance with EU Directive for Marine Equipment. Approved in accordance with parts 5 and 2 of Annex 1 of IMO 2010 FTP Code, or Parts 5 and 2 of Annex 1 of IMO FTPC when in compliance with IMO 2010 FTP Code Ch. 8

Consult your Jotun representative for details.

Additional certificates and approvals may be available on request.

Other variants available

Hardtop Flexi Alu

Refer to separate TDS for each variant.

Colors

according to color card and Multicolor Industry tinting system (MCI)

Product data

Property	Test/Standard	Description
Solids by volume	ISO 3233	64 ± 2 %
Gloss level (GU 60 °)	ISO 2813	gloss (70-85)
Flash point	ISO 3679 Method 1	77 °F (25 °C)
Density	calculated	1.2 kg/l
VOC-US/Hong Kong	US EPA method 24 (tested) (CARB(SCM)2007, SCAQMD rule 1113, Hong Kong)	2.87 lbs/gal

The provided data is typical for factory produced products, subject to slight variation depending on color.
All data is valid for mixed paint.

Gloss description: According to Jotun Performance Coatings' definition.

The gloss may vary depending on the application method.

Film thickness per coat

Typical recommended specification range

Dry film thickness	2 mils (50 µm)	- 6 mils (150 µm)
Wet film thickness	3 mils (80 µm)	- 9 mils (230 µm)
Theoretical spreading rate	530 ft²/gal (13 m²/l)	- 180 ft²/gal (4.3 m²/l)

Bright colors may need film thickness in the high end of the recommended specification range to achieve opacity.

Surface preparation

To secure lasting adhesion to the subsequent product all surfaces shall be clean, dry and free from any contamination.

Surface preparation summary table

	Surface preparation	
Substrate	**Minimum**	**Recommended**
Carbon steel	St 2 (ISO 8501-1) or SSPC SP-2	Sa 2½ (ISO 8501-1) or NACE No. 2 / SSPC SP-10
Stainless steel	The surface shall be hand or machine abraded with non-metallic abrasives or bonded fibre machine or hand abrasive pads to impart a scratch pattern to the surface.	Abrasive blast cleaning to achieve a surface profile using non-metallic abrasive media which is suitable to achieve a sharp and angular surface profile.
Aluminum	The surface shall be hand or machine abraded with non-metallic abrasives or bonded fibre machine or hand abrasive pads to impart a scratch pattern to the surface.	Abrasive blast cleaning to achieve a surface profile using non-metallic abrasive media which is suitable to achieve a sharp and angular surface profile.
Galvanized steel	The surface shall be clean, dry and appear with a rough and dull profile.	Sweep blast-cleaning using non-metallic abrasive leaving a clean, rough and even pattern.
Coated surfaces	Clean, dry and undamaged compatible coating	Clean, dry and undamaged compatible coating

Application

Application methods

The product can be applied by

Spray:	Use air spray or airless spray.
Brush:	May be used. Care must be taken to achieve the specified dry film thickness.

Roller: May be used. Care must be taken to achieve the specified dry film thickness.

Product mixing ratio (by volume)

Hardtop Flexi Comp A	4 part(s)
Hardtop Flexi Comp B	1 part(s)

Thinner/Cleaning solvent

Thinner: Jotun Thinner No. 10 / Jotun Thinner No. 26

Jotun Thinner No. 26 is supplied and used in USA due to legislation.

Guiding data for airless spray

Nozzle tip (inch/1000): 15-21

Pressure at nozzle (minimum): 150 bar/2100 psi

Guiding data for air spray

Nozzle tip: HVLP: 13-21 (inch/1000) / Pressure pot: 1.3-2.1 (mm)

Pressure at nozzle (minimum): HVLP: 2.4 bar/34 psi / Pressure pot: 2.4 bar/34 psi

Drying and Curing time

Temperatures:
-10°C = 14°F / -5°C = 23°F / 0°C = 32°F / 5°C = 41°F / 10°C = 50°F / 15°C = 59°F / 23°C = 73°F / 35°C = 95°F / 40°C = 104°F / 100°C = 212°F

Substrate temperature	5 °C	10 °C	23 °C	40 °C
Surface (touch) dry	6 h	3 h	1.5 h	1 h
Walk-on-dry	16 h	8 h	4 h	2 h
Dried to over coat, minimum	12 h	6 h	3 h	1.5 h
Dried/cured for service	15 d	10 d	7 d	4 d

For maximum overcoating intervals, refer to the Application Guide (AG) for this product.

Drying and curing times are determined under controlled temperatures and relative humidity below 85 %, 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.

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

Induction time and Pot life

Temperatures: 15°C = 59°F / 23°C = 73°F

Paint temperature	23 °C
Pot life	1 h

Heat resistance

	Temperature	
	Continuous	Peak
Dry, atmospheric	120 °C	140 °C

Resistant to spills of most oils, aliphatic petroleum products and non aggressive chemicals.

Peak temperature duration max. 1 hour.

The temperatures listed relate to retention of protective properties. Aesthetic properties may suffer at these temperatures.

Product compatibility

Depending on the actual exposure of the coating system, various primers and topcoats can be used in combination with this product. Some examples are shown below. Contact Jotun for specific system recommendation.

Previous coat: epoxy, zinc epoxy, epoxy mastic, polyurethane

Packaging (typical)

	Volume (liters)	Size of containers (liters)
Hardtop Flexi Comp A	4 / 16	5 / 20
Hardtop Flexi Comp B	1 / 4	1 / 5

1 l = 0.26 gal
4 l = 1.06 gal
16 l = 4.23 gal

The volume stated is for factory made colors. Note that local variants in pack size and filled volumes can vary due to local regulations.

Storage

The product must be stored in accordance with national regulations. Keep the containers in a dry, cool, well ventilated space and away from sources of heat and ignition. Containers must be kept tightly closed. Handle with care.

Shelf life at 73°F (23 °C)

Hardtop Flexi Comp A	24 month(s)
Hardtop Flexi Comp B	48 month(s)

In some markets commercial shelf life can be dictated shorter by local legislation. The above is minimum shelf life, thereafter the paint quality is subject to re-inspection.

Note

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.

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.

Color variation

When applicable, products primarily meant for use as primers or antifoulings may have slight color variations from batch to batch. Such products may fade and chalk when exposed to sunlight and weathering.

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

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.