

SteelMaster 120SB

Product description

This is a one component solvent based acrylic thin film intumescent coating. Independently approved for fire protection of structural steel exposed to cellulosic fire. Can be used as mid coat or finish coat in atmospheric environments. Suitable on approved primers on carbon steel substrates.

Typical use

Specially designed as a reactive fire protection system for steel constructions. Suitable for structural steel for internal or semi-exposed locations up to corrosivity category C4 (ISO 12944-2), with an approved topcoat.

SteelMaster 120SB can be exposed without topcoat for 6 months during construction phase, however whether topcoated or not, the coating must be protected from condensation, ponding/pooling water due to rainfall or running water, provided it has had appropriate drying prior to exposure. This also extends to snow and ice.

For a detailed coating specification please contact your local Jotun representative.

Approvals and certificates

BS 476 part 20/21: Certifire CF 845
Cellular beams RT1356
Chinese GB14907:2018
ASTM E84: Class A

Additional certificates and approvals may be available on request.

Colours

white

Product data

| Property | Test/Standard | Description |
|------------------|-------------------|-------------|
| Solids by volume | ISO 3233 | 72 ± 3 % |
| Flash point | ISO 3679 Method 1 | 25 °C |
| Density | calculated | 1.3 kg/l |

| Region | Regulation | Test Standard | VOC Value |
|-----------|--|---------------|-----------|
| US | CARB(SCM)2020 / SCAQMD rule 1113 | Calculated | 367 g/l |
| Hong Kong | Air Pollution Control (VOC) Regulation | Calculated | 367 g/l |
| EU | European Paint Directive 2004/42/CE | Calculated | 367 g/l |
| EU IED | Industrial Emission Directive 2010/75/EU | Calculated | 367 g/l |
| Korea | Korea Clean Air Conservation Act | Calculated | 367 g/l |

The provided data is typical for factory produced products, subject to slight variation depending on colour.

Volume solids measured according to ISO 3233 and ASFP-BCF Guidance Method

Film thickness per coat

Typical recommended specification range

| | |
|--------------------|---------------|
| Dry film thickness | 200 - 720 µm |
| Wet film thickness | 280 - 1000 µm |

All steel sections must be coated with correct film thickness to achieve the required fire rating. Please refer to the current loading tables. For further advice please contact your local Jotun office.

Note: The film thickness is only achievable by airless spray application in one coat.

Maximum allowable Dry Film Thickness (BS certification)

If measured mean thicknesses are in excess of these values, action needs to be taken to reduce the measured thickness to below the maximum allowable for the particular member shape and orientation.

I/H beams, 3 sided: 3762 µm

I/H beams, 4 sided: 3200 µm

I/H columns, 4 sided: 3200 µm

CHS & RHS columns: 5600 µm

Surface preparation

Refer to the Application Guide (AG) for additional information.

Surface preparation summary table

| Substrate | Surface preparation | |
|-----------------|---|---|
| | Minimum | Recommended |
| 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 airless spray.

Brush: Recommended for stripe coating and small areas, care must be taken to achieve the specified dry film thickness.

Refer to the Application Guide (AG) for additional information.

Product mixing

Single pack

Thinner/Cleaning solvent

Do not add thinner. The product is ready to use and should not be thinned.

Cleaning solvent: Jotun Thinner No. 7

When thinners are used as a cleaning solvent, the use must be in accordance with prevailing local regulations.

Guiding data for airless spray

Nozzle tip (inch/1000): 19-23
Pressure at nozzle (minimum): 200 bar/2900 psi

Drying and Curing time

| Substrate temperature | 5 °C | 10 °C | 23 °C | 40 °C |
|---------------------------|------|-------|--------|--------|
| Surface (touch) dry | 2 h | 1 h | 30 min | 20 min |
| Dry to handle | 48 h | 24 h | 16 h | 8 h |
| Dry to over coat, minimum | 24 h | 8 h | 6 h | 6 h |

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

Dry to overcoat minimum is with self. See additional guidance for Topcoating.

All drying times have been measured at a wet film thickness of 1000 µm under controlled temperature and relative humidity below 85 %.

Drying times can vary depending on environmental conditions such as air temperature, relative humidity, weather conditions, ventilation and also the number of coats, total dry film thickness applied, etc. Refer to AG for multi-coat application method.

Topcoating

The recommended minimum overcoating interval of this product with approved acrylic topcoats is 24 hours and for other approved topcoats is 48 hours. The system should be dry to handle and coating thickness gauge should not leave an indentation on the coating. Drying time/overcoating interval may be extended if there is a drop in temperature or if multi-coat system is applied. Prior to application of topcoat, the applicator must ensure that the specified dry film thickness has been achieved.

Surface (touch) dry: The state of drying when slight pressure with a finger does not leave an imprint or reveal tackiness.

Dry to handle: Minimum time before the coated objects can be handled without physical damage.

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

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: alkyd, epoxy, epoxy zinc phosphate, zinc epoxy (with epoxy tie coat)

Subsequent coat: approved list of topcoats

To ensure fire performance, primers and topcoats must be compatible with: SteelMaster 120SB

Contact your local Jotun office for a list of approved Jotun primers and topcoats.

Packaging (typical)

| | Volume (litres) | Size of containers (litres) |
|-------------------|--------------------|--------------------------------|
| SteelMaster 120SB | 20 | 20 |

The volume stated is for factory made colours. 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, shaded, cool, well-ventilated space and away from sources of heat and ignition. Containers must be kept tightly closed. Handle with care.

Shelf life at 23 °C

SteelMaster 120SB 18 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.

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.

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.

Colour variation

When applicable, products primarily meant for use as primers or antifoulings 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.

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.
