

Jotafloor EP Coating

Product description

This is a two component amine cured high volume solid, low VOC epoxy coating. Well-rounded epoxy coat with improved longevity, strength and performance while offering outstanding mechanical properties. Easier application with the option of direct to concrete as per Jotun's recommended guidelines. With Jotafloor Non-Slip Aggregates, enhanced slip resistance is possible.

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 ASTM, ICRI, NACE and SSPC Standards. When using standards from other regions it is recommended to reference only one corresponding standard for the substrate being treated.

Surface preparation

Concrete surface preparation for primer

The required quality of surface preparation can vary depending on the area of use, expected durability and if applicable, project specification. Surface profile depends on thickness of Jotafloor system.

Below table is the surface profile reference for floor coating system:

Jotun coating system type/description	ICRI description	Total thickness (microns)	Recommended profile
Clear coating	Sealers	25 - 75	CSP 1 - 2
Thin films	Thin films	100 - 250	CSP 2 - 3
High-Build Coatings	High-Build Coatings	250 - 1000	CSP 3 - 5
Self-Levelling Coating	Self-Levelling Toppings	1250 - 3175	CSP 4 - 6
Screed coating	Polymer Overlays	3175 - 6350	CSP 5 - 9
Jotun repair solution - Jotafloor slurry	Concrete Overlays & Repair Materials	> 6350	CSP 5 - 10

The substrate should be mechanically prepared to leave a clean, sound, stable based on to which Jotafloor system can be applied.

Method of preparing is diamond disc grinding or dust free captive blasting. Other methods are also applicable depending on system requirement. Equipment should be connected to an industrial vacuum machine for a dust free environment.

Whichever surface preparation method is employed, ensure that the laitance and loose particles are removed

from the concrete surface.

Remove all the dust formed on the surface using an industrial vacuum machine. Vacuum cleaning is also recommended before the start of each of the coat.

Once surface preparation is completed it is necessary to use the following material for concrete repairs.

Jotafloor Filler – Blow holes/Cracks up to 3 mm depth.

Jotafloor Filler Plus – Blow holes / cracks from 3 mm to 10 mm depth.

Slurry of Jotafloor SF Primer E and Jotafloor Non-slip Aggregate medium – Blow holes/cracks more than 10 mm depth.

For every 1 litre of Jotafloor SF Primer E, it is required to add 5 kgs of non Jotafloor Non-slip Aggregate medium and then mix. The mixed quantity would be in slurry form and should be applied onto the wet primer for to ensure good intercoat adhesion. It is important to consult the Jotun Technical team for any repair above 10 mm deep.

The substrate should be prepared to the appropriate tolerance or flatness level prior to the application of coating. Tolerance can be corrected; this is a separate operation which must be completed before installing floor coating.

Applicators are advised to check the tolerances of the floor before application as floor coating will follow the contours of the substrate.

Coated surfaces

The coated surfaces should be dry, clean and sound.

When applying on coated surfaces which have past maximum over-coating time, abrading is required to achieve proper intercoat adhesion.

Application

Before application, it is recommended to do systematic planning with consideration of conditions, application methods, procedures, and sequences.

Acceptable environmental conditions - before and during application

The concrete substrate should be at least 28 days old and before the application, test the atmospheric conditions in the vicinity of the substrate for the dew formation according to ISO 8502-4.

The concrete substrate moisture content should not exceed 4%.

The atmospheric Relative Humidity should not exceed 85%.

Minimum and maximum concrete substrate temperature should be 23°C and 40°C respectively.

Concrete substrate temperature should be at least 3°C above the dew point.

The pH of the concrete substrate should be 7-9.

The following restrictions must be observed:

- 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 unfavorable for application or curing
- Do not apply the coating in high wind conditions

This product should not be applied on to the surfaces which are known to, or likely to suffer from, rising dampness, potential osmosis problems or have a moisture content greater than 4%.

Product mixing

Product mixing ratio (by volume)

Jotafloor EP Coating Comp A	4 part(s)
Jotafloor EP Coating Comp B	1 part(s)

Avoid mixing under direct sunlight. The temperature of the paint shall be 20-30°C when the paint is mixed.

Part mixing of these components is not acceptable and will affect both performance and appearance of the finished floor.

A slow-speed mechanical mixing agitator or equivalent tool with the speed of 300-400 rpm, shall be used for mixing.

The individual components should be thoroughly stirred separately till homogenous.

The entire content of the Component B should be added to the Component A and mixed together for 1 minute till homogeneous.

Pour the full contents of the mixed material onto the floor immediately after mixing is completed.

Induction time and Pot life

Paint temperature	23 °C
Pot life	25 min

Thinner/Cleaning solvent

Cleaning solvent : Jotun Thinner No. 17

Thinning of the product is not recommended.

Application methods

Brushing

Corners and edges can be applied using brush.

Troweling

Pour the paint on to the primed surface, then spread and level to the required thickness using a metal trowel, pin screed trowel (leveler) or notched trowel.

Squeegeeing

Squeegees can be used for fast spreading of the paint on the floor.

Types of squeegee to be used including flat and serrated squeegee depending on wet film thickness.

Rolling

Before roller application, the roller shall be wetted by paint.

Once the paint is spread, roller application is followed to achieved desired finishing.

Aggregates broadcasting

May be applied on the primer/intermediate coat when it is wet.

Aggregates are broadcasted on wet coating till entire surface is completely covered with excess aggregates which will be removed on next day prior to application of subsequent coat.

Broadcast to saturation is recommended to achieve consistent roughness finishing.

Application directly on concrete

Porosity is a measure of the volume of pores/voids in concrete and concrete is inherently porous, porosity must be properly filled/wetted for successful direct to concrete application. Therefore, coating penetration into the concrete pores/voids is crucial for adhesion between coating and concrete.

During the first coat of Jotafloor EP Coating, 150-200µm is applied on the concrete substrate by using roller. Few passes with pressing force are required to achieve good penetration of coating into concrete substrate. Incremental pressing force technique should be applied in every pass.

Filling and covering of porosity can be judged by followings:

1. Absorption rate

If the absorption rate of coating is very high, additional rolling is required until absorption is saturated.

2. Bubbling

Bubbling is also an indication of porosity is not filled and additional rolling is required until no bubble is observed.

3. Visibility of concrete substrate

If the concrete substrate is not hidden by the wet coating, additional rolling is required and final WFT has to be achieved.

Before second coat application, touch up is required on the area which is not properly filled and covered by the first coat.

Important:

Make sure porous area is properly filled and covered prior subsequent coat application.

After all the touch up has been carried out, apply the remaining Jotafloor EP Coating thickness according to specified coating system.

Scratch coat

If scratch coat is necessary, it can be prepared by mixing a solvent free primer/topcoats with approved grade of silica flour/fumed silica/fine silica aggregates. The recommended wet film thickness of scratch coat is 500-3000µm. After scratch coat is dried then proceed with subsequent coat.

Product to be used as scratch coat: Jotafloor Screed Primer, Jotafloor EP SL Uni and Jotafloor EP Coating.

Repair of coating system

Damages to the coating layers:

Prepare the area through sandpapering or grinding, followed by thorough cleaning/vacuuming. When the surface is dry the coating may be over coated by an additional coat or by another product, ref. original specification.

Always observe the maximum over coating intervals. If the maximum over coating interval has been exceeded the surface should be carefully roughened in order to ensure good intercoat adhesion.

Damages exposing bare Substrate:

Remove rust, loose paint, grease or other contaminants by captive 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.

Film thickness per coat

Typical recommended specification range

Dry film thickness 200 - 500 µm

Wet film thickness 200 - 500 µm

Theoretical spreading rate 4.9 - 1.96 m²/l

Spreading rate depends on film thickness applied, type of texture, surface porosity, imperfections, temperature, wastage during painting etc.

Ventilation

When coatings are applied in a confined space, artificial ventilation is required.

During application it is recommended to provide enough ventilation to have a safe work environment and to ensure that solvent concentration in the confined space at no time exceeds the maximum permitted according to local health and safety regulations.

Drying and Curing time

Substrate temperature	23 °C	40 °C
Surface (touch) dry	16 h	5.5 h
Walk-on-dry	18 h	6.5 h
Dry to over coat, minimum	24 h	8 h
Dry to over coat, maximum, atmospheric	48 h	24 h
Dried/cured for service	7 d	3 d

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.

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

Temperature below 23 degree C will make application more difficult and careful considerations should be given to storage of materials in cold conditions. Consult Jotun technical team for assistance in such cases.

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.

Equipment List

- Mixing paddle, MR3 type or equivalent
- Heavy duty slow speed drill
- Paint roller for the application of primer
- Straight steel trowel
- Spiked Shoes
- Medium-sized flat bladed screwdriver (for opening tins)
- Sharp knife (for opening bag of aggregate)
- Cleaning cloth
- Jotun Thinner 17
- Soft bristled sweeping brush or broom
- Heavy duty wire brush
- Industrial vacuum cleaner
- Concrete moisture meter

Quality assurance

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

- 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

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

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, SSPC 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

Disclaimer

Application Guide

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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.