



# ***XPS WATER-BASED EPOXY***



## **WATER-BASED EPOXY COATING FOR FINISHING AND PAINTING OF PAVEMENTS AND SURFACES IN GENERAL**

### **DESCRIPTION**

**XPS WATER-BASED EPOXY** is a coloured and two-component water-based epoxy coating suitable for protective and decorative coating of floors and surfaces in general. It is available in two different versions:

- **XPS WATER-BASED EPOXY**
- MATTE for an eggshell, matte finish.
- **XPS WATER-BASED EPOXY**
- GLOSS for a smooth glossy finish.

### **APPLICATION FIELDS**

- Protective and decorative coating for concrete floors, cement mortars or gypsum plasters walls or other surfaces in hospitals, garages, dairies, butcheries, kitchens, power plants, chemical industrial facilities, warehouses, etc.
- Protective coating of metal surfaces, steel and other polished surfaces.
- Priming for solvent-free epoxy-based systems.
- Anti-dust protective coating for warehouses, car parking areas, and industrial factories.
- Sealing of porous surfaces or with residual humidity before applying solvent-based polyurethane liquid waterproofing membranes.

### **ADVANTAGES**

- Excellent adhesion to concrete and steel.
- Elastic modulus compatible with the thermal movements of the substrate.
- High mechanical strengths, providing a coating with an excellent abrasion resistance.
- Suitable for substrates with low level of humidity.
- Easy to clean.
- Environmentally friendly: non-toxic, epoxy-based, non-flammable and solvent-free product. Suitable for poor ventilated areas.

### **APPLICATION INSTRUCTIONS**

#### **Surface preparation**

Surface to be coated must be structurally sound, firm, without cement laitance and as uniform as possible, and preferably with a slight roughness, i.e. open textured surface. It must be dry, clean and free of paints, coatings, efflorescence, loose particles, grease, oils, curing agents, form release agents, dust, gypsum plasters, organic growth or any other contaminants that may affect to adhesion of the product.

Avoid application on substrates subject to rising damp. Substrate could contain a certain amount of humidity but it cannot be applied on wet surfaces or with flowing water.

Consult our technical note "*Preparation of concrete surfaces for application of epoxy-based coatings*" for further information.

Before coating application, all small voids, holes, honeycombs, cavities, once opened must be patched with an epoxy-cement mortar or with an epoxy-based mortar.

Cold joints, tie holes, and static cracks without movement, once opened and routed to a minimum depth of 2 cm, must be repaired with a structural repair mortar to provide an even surface.

Rebars and other metal elements exposed during the substrate preparation should be cleaned, while non-structural and surface iron elements must be cut to a depth of at least 2 cm and then covered with a suitable repair mortar.

Expansion joints and fissures/cracks subject to movements, once opened must be sealed with any suitable sealant.





## *Concrete and cement mortar:*

For cleaning and preparing the substrate, preferably in case of the smooth and/or poorly absorbent concrete and cement mortars, provide a mechanical texturing by abrasive disc, dry sand-blasting, scarification or other abrasive method to achieve at least a slightly textured surface, not being desirable aggressive mechanical or chemical means. Finally, vacuum the dust and loose particles.

## *Steel and other non-porous surfaces:*

Metal surfaces should be cleaned to remove all traces of corrosion, and must be degreased, dry and free of dust. Use sand or shot blasting to Sa 2½ grade (near to white metal) according to Swedish Standards or equivalent. On metal surfaces pay attention to drying conditions, because oxidation could arise when drying process is not very fast.

## **Mixing**

**XPS WATER-BASED EPOXY** is supplied as a pre-weighed two-component set.

Premix the components separately, and then the hardener, component B, is poured into the resin, component A. In order to ensure the proper reaction of the two components make sure all of component B is added.

Mixing manually or preferably using a low speed drill (300-400 rpm. maximum), fitted with a mixer suitable for liquids for about 2-3 minutes until achieving a homogeneous product in colour and appearance. Do not mix for prolonged period nor use high-speed mixer, which may heat the mixture or introduce air bubbles.

Check Technical Data Table for product pot life (2 hours at 20° C). This value increases with lower temperatures or small quantities of mixture, and reduces with higher temperatures.

## **Application**

Work **XPS WATER-BASED EPOXY** into the prepared substrate to fill and cover all micropores and other small voids, using preferably a solvent-resisting brush or roller. When using an air-less spray equipment dilute with a sufficient amount (up to 5%, by volume) of water to allow the easy application of the product.

## *Standard priming:*

In order to improve the penetration of the product into substrate and provide a better adhesion on porous substrates such as standard concrete, apply a first coat of **XPS WATER-BASED EPOXY** diluted with 5% of water with a consumption of about 0,20-0,30 kg/m<sup>2</sup>, depending on porosity of substrate.

## *Coating (smooth surface finish):*

Apply a first coat of **XPS WATER-BASED EPOXY** with a consumption from 0,20 to 0,30 kg/m<sup>2</sup>, depending on the porosity of the substrate. Once dried, i.e. from 6 to 12 hours, depending on ventilation and ambient conditions, apply a second layer with the same coverage. Do not leave more than 24 hours between coats. If this time does elapse before the following coat is applied or the surface has been in contact with water or other liquids, then lightly sand the surface before proceeding with coats.

## *Non-slip surface finish (Slip/skid resistance value, Rd=3):*

Apply a first coat of **XPS WATER-BASED EPOXY** with a consumption from 0,25 to 0,35 kg/m<sup>2</sup>, depending on the porosity of the substrate.

While this last pure coat is still fresh, dust the **XPS WATER-BASED EPOXY** dry, clean, high quality aggregate (0,3-0,8 mm size) with a consumption from 1,0 to 1,5 kg/m<sup>2</sup>. Once it is dry, i.e., at least 6 to 12 hours, depending on environmental and ventilation conditions, sweep and vacuum surface to remove unbounded and excess aggregate. Finally, apply a second coat of pure **XPS WATER-BASED EPOXY** with a consumption from 0,25 to 0,35 l/m<sup>2</sup>.

If a high abrasion resistance and/or improved chemical resistance is required for the coating, apply a top-coat or **XPS URETHANE-X** with a consumption of at least 0,20 kg/m<sup>2</sup>. For an aesthetic finish the system composed of colored silica aggregates finally sealed with a transparent epoxy-based binder.

## *Priming for solvent-free epoxy coating and other systems:*

**XPS WATER-BASED EPOXY** matte can be used as primer for solvent-free epoxy systems over concrete or cement mortars.

## **Application conditions**

Do not apply in rain or when rain, contact with water, condensation, dampness and dew is expected within the first 24 h after the application.

Optimum application temperature range is from 10°C to 30°C. Do not apply with substrate and/or ambient temperature is at or below 10°C, or when are expected to fall below 10 °C within 24 h after application. Do not apply to frozen or frost-covered surfaces.

Ambient and surface temperature must be at least 3°C higher than dew point. Do not apply with R.H. higher than 80%. Measure the relative humidity and dew point before applying the product.





With low temperatures, high humidity levels or both, use dry and warm air in order to get the suitable conditions, such as with an electric powered air blower system.

Temperatures above 30°C lead a quick-setting between components and heat production, so the pot life is greatly reduced.

## Curing

Allow **XPS WATER-BASED EPOXY** to cure for at least 5 days at 20°C and 50% R.H. before putting into service to heavy traffic. Applications at lower temperatures, high humidity and/or poor ventilation conditions require longer drying and curing times.

## Cleaning

All mixing and application tools, and equipment must be cleaned immediately with water after use. Once product cures, this can only be removed by mechanical means.

## CONSUMPTION

Estimated consumption for **XPS WATER-BASED EPOXY** varies from 0,20 to 0,30 kg/m<sup>2</sup> per coat, i.e., a total consumption from 0,40 to 0,6 kg/m<sup>2</sup>, applied in two coats.

These figures are for guidance only and may vary depending on porosity, texture and conditions for substrate, and application method. Perform a preliminary test on-site to ascertain the total consumption exactly under jobsite conditions.

## IMPORTANT INDICATIONS

- For interior use only. Under sun light exposure, some colour variations or discolouration can take place.
- Do not apply on substrates subject to rising humidity or negative water pressure.
- Avoid contact with water, damp, dew, condensation, etc for at least 72 hours after application. Relative humidity must not exceed 80%. If so, an improper curing or loss of colour intensity may happen.
- Allow new concrete and mortar to cure a minimum of 28 days before application.
- Use the recommended A to B mixing ratio.
- Observe the recommended consumptions per coats.
- **XPS WATER-BASED EPOXY** must be thoroughly dry before using.
- Observe the recommended mixing ratios for all compounds.

- Do not add solvents, thinners, admixtures, or other compounds.
- For other uses not specified in this Technical Bulletin, further information or questions regarding the application of the product, consult the Technical Department.

## PACKAGING

**XPS WATER-BASED EPOXY** is supplied in pre-weighed two-component sets of 10 kg and 20 kg. It is available in 5 different standard colours, and two versions (matte and gloss): green, red, grey, white and brown. Other colours are available upon special request.

## STORAGE

Twelve months in its unopened and undamaged original sealed packaging. Store in a cool, dry and covered place, protected from moisture, frost and away from direct exposure to sunlight, with temperatures between 5°C and 30°C.

Storage at temperatures below 5°C may lead the crystallisation of product components. Should this happen, it must be heated slowly at moderate temperature while it is regularly stirred until achieving its homogeneous and original lump-free appearance.

**XPS WATER-BASED EPOXY** can be stored indefinitely in its original unopened packaging, in a dry and covered place protected from humidity, frost and direct sun light, with temperatures above 5°C.

## SAFETY AND HEALTH

**XPS WATER-BASED EPOXY** is not a toxic product but direct contact with skin and eyes must be avoided. Use rubber gloves and safety goggles when handling, mixing and applying the product. In case of contact with skin, wash affected area with soap and water. In case of contact with eyes, rinse immediately thoroughly with clean water but do not rub. If the irritation persists, seek medical assistance. Do not inhale vapors from heating and combustions process. If ingested, seek immediate medical assistance. Do not induce vomiting.

Consult the Material Safety Data Sheet for **XPS WATER-BASED EPOXY**.

Disposal of the product and its packaging should be carried out according to the current official regulations and it is the responsibility of the final user of the product.





## TECHNICAL DATA

<b>CE Marking, EN 1504-2</b>	
Description. Epoxy coating for surface protection of concrete. Coating (C). Principles / Methods. Protection against ingress with coating (Principle 1-PI / 1.3) and Moisture control with coating (Principle 2-MC / 2.2)	
<b>Product characteristics</b>	
General appearance and colour for component A	Coloured, homogeneous liquid
General appearance and colour for component B	Translucent-yellowish liquid
A:B mixing ratio for matte/gloss version, (by weight)	5:1 / 4:1
<b>Application and curing conditions</b>	
Application conditions, T (°C) / R.H. (%)	> 10 / < 80
Pot life at 10°C/ 20°C/ 30°C, (min)	180 / 120 / 60
Tack-free drying-time at 20°C, (hours)	2 - 4
Waiting time between coats at 20°C, (hours)	6-12 (max.) to 24 (min.)
Total curing time at 10°C/ 20°C/ 30°C, (days)	8 / 5 / 3
<b>Cured product characteristics</b>	
Permeability to CO <sub>2</sub> , EN 1062-6. S <sub>D</sub> (m)	> 50
Permeability to water vapour, EN ISO 7783-1/-2. Classification. S <sub>D</sub> (m)	Class II: 5 < S <sub>D</sub> < 50
Permeability to water and capillary absorption, EN 1062-3. w (kg/m <sup>2</sup> ·h <sup>0.5</sup> )	< 0,1
Adhesion by pull-off, EN 1542 (N/mm <sup>2</sup> )	≥ 1,0
Persoz Hardness 1 / 2 / 7 / 14 days at 20°C, (s)	60 / 90 / 220 / 255
Erichssen Extensibility 7 / 14 days, DIN 52156	7,0 / 5,5
Water resistance over aluminium at 20°C / 98°C (months/hours)	6 / 6
Gardner Shine. matte/Glossy version	22 / 65
Slip/skid resistance value, UNE-ENV 12633	Class 3
Reaction to fire, UNE EN 13501-1:2007	Bfl – s1
Flash point, (°C)	Non flammable
<b>Consumptions*</b>	
Consumption per coat / total application, (kg/m <sup>2</sup> )	
- Priming for 100% solid, epoxy or polyurethane systems:	0,20-0,30
- Smooth finishing.	0,20-0,30 / 0,40-0,60
- Non-slip surface finishing.	0,25-0,35 / 0,50-0,70

(\*) These figures are for guidance only and may vary depending on porosity, texture and conditions for substrate, and application method. Perform a preliminary test on-site to ascertain the total consumption exactly under jobsite conditions.

