

# Fosroc® Preco XPozR

constructive solutions

Heavy body water based concrete surface retarder

## Uses

**Preco XPozR** is a surface retarder to provide a simple, economical method of consistently exposing concrete aggregates in freshly poured concrete flat work.

**Preco XPozR** produce pleasing textures on concrete pavements, terraces, promenades, steps and similar areas. Can also be used as a form face retarder for solvent-free applications.

## Advantages

- Water based, solvent free
- Gives attractive exposed aggregate surface textures
- Consistent results across the concrete surface, minimising variability found in alternative methods
- High viscosity minimise puddling and running on slightly sloped surfaces
- Available in a range of strengths, colour coded for ease of identification
- High level of hiding power of applied film provides guide to correct coverage and assists in uniform application
- Suitable for use on styrofoam form-liners that would be damaged by solvent based surface retarders
- Easy to use

## Description

**Preco XPozR** surface retarder is chloride free and based on specially selected retarders of cement hydration. It contains viscosity control and pigmenting materials that provide body to the applied film, improving application characteristics.

**Preco XPozR** temporarily halts the hydration and setting of the cement in the surface layer of concrete. Controlled penetration allows the bulk of the concrete to harden at normal rates. At a later stage, either the same day or the next depending on construction requirements and ambient conditions, the retarded surface can be brushed or washed away leaving aggregate at the surface exposed but fully bonded with the bulk concrete.

Alternative methods of producing a similar surface texture, such as simple wet brushing without the aid of retarders or sand blasting or similar mechanical abrasion, are generally more labour intensive and lead to an obvious variability in depth or reveal of the aggregate surface. Because **Preco XPozR** delays cement hydration in the top layer of the concrete to a consistent depth while the bulk concrete hydrates as normal, the depth of reveal when the retarded surface is removed is consistent, even over large areas.



## Selection of grade of product

The grade of **Preco XPozR** required will depend on the desired depth of etch or reveal of exposed aggregate. In most situations, a reveal of one half to one third of the average diameter of the large aggregate will give a suitable effect. Confirmation of a suitable grade for specific conditions is best made in trials before the main project.

Colour	Etch description	Aggregate size	Grain size [d <sub>max</sub> ]
Lilac	Light	1 - 3 mm	4 - 9 mm
Pink	Medium	3 - 5 mm	9 - 12 mm
Brown	Deep	7 - 9 mm	18 - 32 mm

## Properties

Specific gravity	: Approx. 1.4 kg/litre at +20°C
Theoretical coverage	: 3-4 m <sup>2</sup> /kg
Total coats required	: 1-2
Drying time	: 15-60 minutes
Minimum application temperature	: +5°C

## Application on concrete top surface

### Concrete placing

Follow normal precautions in the preparation of the substate and placing of concrete. Level the concrete surface to be exposed with a screed, float or trowel. Do not tamp or over-work the surface as this will tend to drive aggregate down from the surface, reducing depth and uniformity of exposure. Excessive use of a steel trowel may tend to seal the surface and reduce retarder penetration.

To enhance the appearance of the exposed concrete, additional aggregate may be sprinkled on the top surface and carefully worked in so that it is completely surrounded by cement paste. If used, this procedure should be developed through trials before the main project.

## Application and coverage rate

**Preco XPozR** should be well mixed before use. Application should commence as soon as all surface water has disappeared from the concrete, but not before. Delay in application will affect the depth of reveal obtained.

**Preco XPozR** should be spray applied using standard low pressure spray equipment. The recommended coverage rate is between 250-400 g/m<sup>2</sup> (3-4 m<sup>2</sup>/kgs). The hiding power of the applied film indicates the correct coverage when the colour just hides the concrete.

Adjacent areas should be protected from over-spray, which may cause staining. Starter bars must be protected during application as any **Preco XPozR** adhering to the bar may affect concrete bond.

## Cleaning

Tools and equipment should be cleaned with water immediately after use.

## Removal of retarded layer

Under normal conditions removal can commence after the concrete has set overnight. Use a stiff broom or brush in combination with a water hose to completely remove the retarded matrix. High pressure water is more efficient and should be used if available.

Ambient conditions may require the time of removal of the retarded matrix to be adjusted. In particular, hot or windy conditions may require earlier removal. The recommended trial procedure allows determination of the most suitable time in particular conditions.

It will usually be found beneficial to test a small area of the surface first to determine if the proper depth of reveal is obtained. If the depth appears to be too deep then the surface should be left for a short time before checking again. Such checks should be made more frequently and from an earlier stage if conditions are likely to accelerate the stiffening of the concrete.

Application on mould surface

## Mould surface preparation

All moulds must be non-porous, clean and dry. Porous wood or concrete moulds should be coated with a suitable polyurethane sealer before initial application of **Preco ZPozR**.

All moulds, new or used, must be cleaned of surface deposits of rust, concrete, oil or other materials. Inadequate cleaning may lead to surface blemishes due to the adhering material. The use of **Betonrens (Acid Etch)** (see separate data sheet) will assist the cleaning process.

A normal release agent should be used on all parts of the mould where a smooth finish to the concrete is desired, before application of **Preco XPozR**.

Styrofoam form-liners may be coated with silicone that can prevent adhesion of **Preco XPozR**. In this case, paint the form-liner with latex paint and allow to dry before applying **Preco XPozR**.

## Application and coverage rate

**Preco XPozR** should be well mixed before use. Thinning is normally unnecessary but, if the can has been left open and the contents thickened, thin with water up to 20%.

Apply **Preco XPozR** in a thin, uniform manner by brush, spray or roller, at a rate of approximately 250-400 g/m<sup>2</sup> (3-4 m<sup>2</sup>/kgs). This coverage may be obtained either in a single uniform spray-applied coat or in two light coats with a short nap roller or brush. When applying in two coats allow the first to fully dry, which will take approximately 15-60 minutes. The second coat should be applied with a light pressure to avoid over application and at right angles to the first coat.

Concrete may be placed any time after the final coat is completely dry.

## Cleaning

Tools and equipment should be cleaned with water immediately after use.

## Concrete Placing

Place concrete in accordance with good construction practice. In particular, concrete should not be placed in a number of small piles over the mould and then brought together. Instead, concrete should be placed into one pile that is expanded across the mould. Vibration should be kept away from retarded faces. Once vibration is complete the section should not be disturbed to avoid interference with the retarder penetration of the surface layer.

## Removal of retarded layer

Once the bulk concrete has hardened sufficiently the element can be lifted or shutters and moulds removed.

The retarded portion of the concrete matrix is easily removed by dry-brushing, water-washing or using a light sand blast. Elements should be cleaned soon after lifting. Delay in removal of the retarded matrix will result in a lighter and less uniform depth of etch.

## Mould cleaning

The **Preco ZPozR** film will normally remain on the form or mould surface, together with some of the retarded matrix. This will require abrasion to remove.

## Trial procedures

Trials should be carried out before each project to determine the effect of the particular combination of conditions and materials on the results obtained. Such a procedure allows adjustment of variables such as mix design and the timings of particular stages of the process so as to produce the desired results.

Because of the many variables that can affect the setting of concrete, it is impossible to lay down precise timings that will be appropriate in all cases. Weather conditions, the presence or absence of shade over part or all of the retarded surface, the mix constituents and mix design of the concrete and the dimensions or shape of the concrete pour may all have an effect.

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Variables which should be considered in trials, either to determine their effect on the end result or as slight adjustments to obtain the desired result, include but are not limited to: mix design, slump, admixture use, temperature of the concrete, vibration, thickness of the unit and means and time of finishing and cleaning.

Once trials have produced a suitable procedure, this should be followed for the complete project and any variability that will influence the development of setting and stiffening of the concrete should be kept to a minimum.

## Mix design

The concrete mix should be designed to satisfy structural or architectural requirements. Within the limits imposed by these requirements, variations of maximum aggregate size and aggregate proportions can be made to obtain the most pleasing result. Trials to assess this effect are recommended. In most situations, a reveal of one half to one third of the average diameter of the large aggregate will be found to give a suitable effect. If a high proportion of smaller or fine aggregate is used, this is likely to produce an exposed surface that appears deficient in aggregate.

## Compatibility

**Preco XPozR** is compatible with Fosroc admixtures in the same concrete mix. Admixtures which affect the setting rate of concrete may have a slight effect on the depth of etch obtained but this will be minimal. If this aspect is of particular importance then trials to assess any effect should be carried out before the main project.

**Preco XPozR** is suitable for use with all types of ordinary Portland cements and cement replacement materials such as PFA, GGBFS and silica fume.

## Packaging and coverage

**Preco XPozR** is available in 20 kg (14.3 litre) drums.

1 kg of **Preco XPozR** covers approximately 3-4 m<sup>2</sup>.

## Storage and Shelf life

### Shelf life

**Preco XPozR** has a shelf life of 12 months provided the temperature is kept within the range of +2°C to +50°C, and dry stored in the original unopened packaging. Should the temperature of the product fall outside this range then **Fosroc A/S** should be contacted for advice.

### Storage conditions

**Preco XPozR** must be stored in a dry area under normal warehouse storage conditions. **Preco XPozR** should be protected from frost. If the material becomes frozen, it should be completely thawed and the thoroughly mixed before use.

## Precautions

For further information see product safety data sheet.



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## Important note

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