

# Preco EAC-S

## Top applied surface retarder

### Uses

To provide a simple, economic method of consistently exposing concrete aggregates in freshly poured concrete flat work.

To produce pleasing textures on concrete pavements, terraces, promenades, steps and similar areas.

In the production of horizontal day or construction joints in mass concrete.

### Advantages

- Gives attractive exposed aggregate surface textures.
- Consistent results across the concrete surface, minimizing variability found in alternative methods.
- Easy to use.
- Economical.

### Description

Preco EAC-S top applied surface retarder is chloride free and based on specially selected retarders of cement hydration. It is available in low grades:

- Preco EAC-S regular, supplied as a blue liquid.
- Preco EAC-S deep, supplied as a red liquid.

Applied to the surface of fresh concrete, Preco EAC-S temporarily halts the hydration and setting of the cement in the top surface. 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 of sand blasting or similar mechanical abrasion, are generally more labour intensive and lead to an obvious variability in depth of removal of the aggregate surface. Because Preco EAC-S 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 larger areas.

### Technical Support

Fosroc provides a technical advisory service for on-site assistance and advice on product selection, evaluation trials and dispensing equipment. Technical data and guidance can be provided for the selection of service retarders for various use conditions, and admixtures and other products for use with fresh and hardened concrete.

### Instructions for Use

#### Selection of grade of product

Preco EAC-S regular will generally be found suitable for a maximum aggregate size of 12mm or less and will typically produce a depth of reveal of approximately 5mm.

Preco EAC-S deep will generally be found suitable for a maximum aggregate size of above 15mm and will typically produce a depth of reveal of approximately 10mm.

Confirmation of the most suitable grade for specific conditions is best made in trials before the main project.

#### Trial procedures

The production of any architectural finish requires practice to develop the level of skill required to obtain a high quality result. Trials and samples duplicating actual production conditions are essential in determining the effects of the various parameters and developing a standard procedure. Trials are best carried out by personnel who will be involved in the full project. Contact the Fosroc Technical Department for advice on 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 result.

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 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 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 proportions can be made to obtain the most pleasing result. Trials to assess these effects are recommended. The 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.

## Concrete placing

Normal precautions in the preparation of the substrate and placing of concrete should be followed. The surface of the concrete to be exposed should be levelled with a screed, float or trowel. It is important that the surface is not tamped or overworked as this will tend to drive aggregate down from the surface, leaving mainly sand and cement and reducing depth and uniformity of expose. Do not over work the surface with a steel trowel as this 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 EAC-S 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 effect the depth of reveal obtained.

Preco EAC-S should be spray applied to the top surface of the concrete using standard low-pressure spray equipment.

The recommended coverage rate is between 2.5 and 3.5m<sup>2</sup>/litre (0.28 to 0.40 litres/m<sup>2</sup>). The optimum coverage of Preco EAC-S to meet specific requirements should always be determined by trials using the materials and conditions that will be experienced in use. Coverage rates outside the recommended range may be used if necessary and suitable to meet specific requirements. Contact the Fosroc Technical Service Department for advice in such cases.

Areas adjacent to the job should be protected from over spray, which may cause staining.

All tools and equipment should be cleaned with water immediately after use. Do not store Preco EAC-S in metal spray equipment for longer than 2-3 hours as this may reduce the effectiveness of the product.

Immediately after application of Preco EAC-S, cover the concrete with plastic sheeting. Black plastic sheeting is recommended. Use of clear plastic may lead to uneven cure of the concrete and variability in each depth. The sheeting must be fully secured along all edges to prevent lifting or removal in wind, or by other means, and should be in contact with concrete surface.

## Removal of retarded layer

Removal of the retarded matrix may begin as soon as the bulk concrete has hardened sufficiently to support a person's weight. Depending on ambient conditions this may be the same day that the concrete was poured or may not be until the morning of the next day. In particular, hot or windy conditions may require the matrix to be removed at an earlier stage. The recommended trial procedure allows determination of the most suitable time in particular conditions to obtain the desired finish.

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

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Remove the plastic sheeting and hose the top surface with water. Use a still broom or brush to completely remove the retarded matrix and reveal the hardened concrete. High-pressure water is more efficient and should be used if available. Surfaces treated with Preco EAC-S must be water washed by the next morning.

## Compatibility

Preco EAC-S is compatible with Fosroc admixtures in the same concrete mix. Admixtures which effect 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 EAC-S is suitable for use with all types of ordinary Portland cements and cement replacement materials such as PFA, BBGFS and silica fume.

## Limitations

Preco EAC-S is designed for use on the top surfaces of fresh concrete. It is not suitable for use on mould faces and will not have any etching if applied to hardened concrete.

## Estimating

### Supply

Preco EAC-S	:	25 & 210 litre drums
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### Coverage

Preco EAC-S	:	2.5 – 3.5 m <sup>2</sup> / litre
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## Shelf Life

Preco EAC-S has a minimum shelf life of 12 months provided the temperature is kept within the range of 2°C to 50°C. Should the temperature of the product all outside this range then the Fosroc Technical Service Department

should be contacted for advice.

## Precautions

### Health and Safety

Preco EAC-S is mildly acidic and should not be swallowed or allowed to come into contact with skin and eyes.

Suitable protective gloves and goggles should be worn.

Ensure adequate ventilation is available when spray applying Preco EAC-S. In enclosed spaces respiration equipment should be worn.

Splashes on the skin should be removed with water. In case of contact with rinse immediately with plenty of water and seek medical advice. If swallowed seek medical attention immediately – do not induce vomiting.

For further information consult the Material Safety Data Sheet available for this product.

### Fire

Preco EAC-S is water based and non-flammable.

### Cleaning and disposal

Spillages of Preco EAC-S should be absorbed onto sand, earth or vermiculite and transferred to suitable containers. Remnants should be hosed down with large quantities of water.

The disposal of excess or waste material should be carried out in accordance with local waste regulatory authority.

### Further information

A Fosroc fact sheet on the production of construction joints using surface retarders is available, as is other information on the use and selection of surface retarders.



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### Important note

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