



CONSTRUCTION CHEMISTRY

Expanplast* SR

Water based concrete surface retarder

Uses

To produce an exposed aggregate concrete finish in either face down or face up concrete manufacture, and to produce a mechanically sound construction joint. Typical uses include

- Precast concrete panels.
- Insitu construction joints.
- Surface preparation of fresh concrete prior to rendering.

Advantages

- Excellent results with high temperature concreting.
- Suitable across a wide variety of job-site conditions and mould surfaces, including steel, fibreglass, concrete and timber.
- Available in a range of etch depths, colour coded for ease of identification.
- Suitable for large units where hydration heat is high.
- Economical in application.
- Mould release agent not required.

Description

Expanplast* SR chemical retarder is directly applied to formwork to provide a simple, economic method of exposing aggregates in freshly poured face down concrete, or sprayed on the concrete surface for face up panels or slabs. The action of Hydrotard products is to retard the hydration of cement at the surface matrix of concrete.

Expanplast* SR is available in two etch depths, it is colour coded to particular depths of exposure as follows:

Green	Light etch	(1-2 mm)
Yellow	Medium etch	(2-4 mm)

The above depths are a guide which are based on grade C30 concrete, with a maximum aggregate size of 20 mm. Site trials are required to confirm the correct grade of Hydrotard.

Technical support

Expanchem Fospak 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 surface retarders for various use conditions, and admixtures and other products for use with fresh and hardened concrete.

Instructions for use

Surface preparation

All formwork must be non-porous, clean and dry. Porous timber or concrete moulds should be coated with suitable polyurethane sealer.

Application and coverage rate

Expanplast* SR should be well-mixed before use. The use of a mechanical mixer is recommended to ensure that any settled material is re-dispersed.

Expanplast* SR should be applied in a thin, uniform manner by brush, spray or roller, at a rate of 5.0 to 8.0 m²/litre (0.20 to 0.125 litres/m²). This coverage can normally be obtained in a single application.

For face down applications, the surface retarder should be completely dry prior to placing concrete, this typically takes 15 to 20 minutes depending upon ambient conditions.

For face up applications, Expanplast* SR should be spray applied to concrete immediately following final placing and finishing, whilst the concrete is still wet.

Concrete placing

Once applied Expanplast* SR must be protected from rain and any dust buildup. Expanplast* SR may be applied up to 24 hours in advance of a concrete pour. 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 shutters or moulds can be removed. The retarded portion of the concrete matrix is easily removed by wire brush or water-washing.

Delay in removal of the retarded matrix will result in a lighter and less uniform depth of etch.

Trial procedures

Trials and samples duplicating actual production conditions are essential in determining the effects of the various parameters and in developing a standard procedure. Trials are best carried out by personnel who will be involved in the full project. Contact the local Expanchem Fospak office for advice on trial.



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Compatibility

Expanplast* SR is compatible with Expanchem Fospak 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.

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

Limitations

Surfaces coated with Expanplast* SR must be protected from water, including rain and condensation, at all times before placement of concrete.

Whilst effective on mixes incorporating GGBFS or silica fume, tests should be conducted to determine performance.

Estimating

Supply

Expanplast* SR	: 5 & 30 Kg. Can
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Coverage

Expanplast* SR	: 5.0 to 8.0 m ² /kg
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Storage

Store in a dry area under normal warehouse storage conditions. Expanplast* SR should be protected from frost, if the material becomes frozen, it should be completely thawed and then thoroughly mixed prior to use.

Expanplast* SR has a minimum shelf life of 6 month provided the temperature is kept within the range of 5oC to 30oC. Should the temperature of the product fall outside this range then the Expanchem Fospak Technical Service Department should be contacted.

Precautions

Health and safety

Expanplast* SR is non-toxic unless ingested in large quantities. Skin and eye contamination can be removed by washing with clean water. If eye contact is severe, or significant ingestion occurs medical advice should be sought.

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

Fire

Expanplast* SR is non-flammable.

Cleaning and disposal

Spillages of Expanplast* SR should be absorbed onto sand, earth or vermiculite and transferred to suitable containers.

The disposal of excess or waste material and empty containers should be carried out in accordance with local legislation under the guidance of the local waste regulatory authority.



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* Denotes the trademark registered.

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