

EXP 2093

In-form retarder

DESCRIPTION

A unique series of in-form surface retarders used for obtaining architectural finishes on precast concrete. Twelve etch-depths provide a full-range of finishes from a very-light acid-etch or sand blast, to traditional deep exposed aggregate finishes. Application rates vary by etch-depth from 350 to 500 ft²/gal (8.6 - 12.3 m²/L), see Table 1. No undercoat required and easy cleanup of formwork. A test panel simulating job conditions should be poured to confirm mix design produces desired etch.

The EXP series of products are designed for simulating a light acid-etch, or sandblast appearance to deep exposed aggregate finishes on precast concrete. Table 1 – provides detailed information on etch-depth and coverage rates. The application rate of 350 - 500 ft² / gal. makes it a very economical product.

In-form surface retarders (IFSR) for simulating acid-etch or sandblast finishes, and creating exposed aggregate finishes.

ADVANTAGES

- One light coat, fast drying
- May be spray applied
- Excellent etch consistency
- High coverage rates = low cost per ft²
- Easy formwork cleanup without solvents
- Can be cast against up to 24 hours after application of retarder
- Can be demolded up to 72 hours after casting

FIELDS OF APPLICATION

- For use in grey or white concrete mixes (Type I/II, III)
- For use on sealed wood, fiberglass, Polyurethane or steel forms or molds

Method of Use

Dosage

- w/c ratio: 0.38 – 0.45
- Cement content: 600 – 800 lbs/yd³
- Sand/Aggregate ratio: 0.4 – 0.5
- Application and Casting temperatures: 50 – 95 °F (10 – 35 °C)
- Concrete Curing temperatures: 40 – 158 °F (4 - 70 °C)
- Use of Fly ash or other supplementary cementitious materials are not recommended.

Additional Usage Recommendations

- Spray or roll apply in light pattern left to right and then top to bottom of formwork . Should be no visible paint pattern.
- Molds made of sealed wood, fiberglass, polyurethane or steel must be clean, free from imperfections and loose debris before application. All EXP in-form surface retarder products must be mixed well prior to each use with a mechanical paint stirrer to blend any precipitated material on bottom of can. Mix for a minimum of three-minutes ensuring product looks smooth and uniform. If spraying, you may pour EXP IFSRs through paint strainer into container to reduce chance of clogging spray tip. It is recommended to use an airless paint sprayer with a stain tip. If rolling, use no more than a ¼” nap roller. Pre-saturate the roller with EXP 2082A before applying EXP IFSFs to the form.
- Apply one light coat uniformly, without any gaps or excess. If excess material forms, clean off with a rag and reapply when first coat is dry. This prevents drying inconsistencies. Average drying time is about 30 minutes depending on temperature and humidity. It is important that EXP IFSRs are completely dry before continuing with form setup or casting concrete onto it.
- Follow good precast concrete practice in accordance with Precast/Prestressed Concrete Institute (PCI) MNL 117. It is recommended to use

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shoe protection if walking in the form during set-up to avoid scratching the retarder, or transferring grease, oils, dust or anything that can create a barrier between the concrete and the retarder.

- Concrete should be a very fluid mix (high slump, flowable concrete or SCC). Minimize vibration (if needed) after 20 minutes of concrete being in contact with EXP IFSRs as not to disturb to surface. This can move the retarder and cause a non-uniform finish. Pouring a monolithic concrete panel is preferred also to reduce disruption to the activated retarder.
- Allow the concrete to harden until approximately 3500 psi before removing from formwork. Use a pressure washer (2500 – 3500 psi) to remove the retarded surface within eight hours of removal from the form as long as the demolded panel stays dry. If panel exposed to rain / high humidity start removing immediately. Begin by wetting/soaking the entire retarded concrete surface with water and let stand for about one minute. Continue to pressure wash the concrete surface side-to-side overlapping each pass. Keep the fan spray perpendicular to the concrete surface as to maintain a uniform pressure to avoid creating wand marks. Make sure to thoroughly rinse surface once completed to remove any overspray from other pieces. Allow to dry before handling. Touch up as needed.

Process Component

- One-year from manufacturing date in unopened container.
- Store according to local legislation.
- Mineral spirits may be used to clean tools and equipment.

CHARACTERISTICS

Product Nature	Liquid
Color	Orange
Shelf life	12 months

PACKAGING

- 20 L bucket

ADDITIONAL INFORMATION

Table 1 – Specific Etch-Depth Coverages Rates and Specifications

Estimated etch-depth*	EXP	EXP Approx. Color	Coverage Rate (s.f./gal)	grams/ sq. ft.	Finish equivalent			Density	Viscosity
					Acid etch	Sand Blast	Exposed Aggregate		
Surface (Skin) only	2082A	Mint Green	500	7.2	Acid etch	Sand Blast	Exposed Aggregate		
Matrix exposure (1/32 to 1/16)	2084	Beige	400	9.6	Light	Light	--		
up to about 3/32"	2085	Blue	400	9.6	Light-med.	Light	--		
Up to about 1/8"	2086	Brown	350	11.3	Med.	Light	--		
Up to about 3/16"	2087	Green	350	11.3	Deep	Med.	Light		
Up to about 1/4"	2088	Yellow	350	11.3	Very deep	Med.	Med.		
Up to about 5/16"	2089	Lt. purple	350	11.3	--	Med.	Med.		
Up to about 3/8"	2090	Lt blue	350	11.3	--	Med.	Med.		
Up to about 1/2"	2091	Lt. yellow	350	11.3	--	--	Med.		
Up to about 5/8"	2092	White	350	11.3	--	--	Deep		
5/8" to about 1"	2093	Orange	350	11.3	--	--	Deep		
1" to 1.5"	2094	DK Purple	350	11.3	--	--	Deep		

PRECAUTIONS

- Solvent based liquid.
- Density at 68°F (20°C): See Table 1.
- Viscosity at 68°F (20°C): See Table 1.
- Flash point: 109°F (43 °C) (SETAFLASH method).
- Freezing point: approx. < 5°F (-15°C).

SAFETY

- Flammable product. Keep away from sparks, open flames.
 - Use respirator for spray applications.
 - This product must be kept in its original packaging.
 - Shipping Classification: Paint, 3, UN1263, Flammable liquid, P.G II.
- Prior to any use, please read carefully the Safety data Sheet.

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