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Surface Preparation, Installation Procedures, and Specifications Sheet

The EnduraFlake Floors System is a high build, seamless floor finish for use over existing concrete. The system is a 3+ step process depending on desired effect and required protection. The steps consist of a Pressure Reducing Base Coat with ¼" Acrylic Paint Chips broadcasted to refusal, and one coat of the EnduraFlake Top Coat for a high-gloss, protective Chemical Resistant finish. The EnduraFlake Floors system can also be customized upon request to meet each project's specific need. Contact E.W. Industries Ltd. for additional information.

Advantages

- Strong and resilient flooring system
- Non-skid texture
- Seamless floor

Uses

- Garage floor system
- Warehouses and automotive repair shops
- Commercial kitchens, locker rooms
- Heavy duty commercial environments
- Chemical storage, packaging and production facilities
- Health and animal care facilities

System Specification

1 Coat – EnduraFlake Pressure-Reducing Base Coat broadcasted into with ¼" EnduraFlake Acrylic Paint Chips

1 Coat – EnduraFlake Top-Coat

** Optional Second Top Coat depending on desired texture **

Installation

The information below is to be used as a guideline for the installation of the EnduraFlake Floors System. Please contact E.W. Industries Ltd. for additional information *before starting the application*.

Step 1: Inspect the Concrete

The concrete must be clean, dry, and free of grease, paint, oil, dust, curing agents, or any foreign materials: these products can interfere with adhesion. The concrete should be porous and be able to absorb water, so ensure the concrete has not been sealed recently, and simply pour water on the concrete as a test; if the water beads a sealer is still present, if not the concrete is indeed porous. A minimum of 28 days cured is required on all concrete. Relative humidity in the concrete floor slab should be below 80% (per ASTM F-2170). Before starting flooring work, test existing concrete slab to make sure there is no efflorescence or high levels of alkalinity. Alkalinity refers to a high pH reading which means the floor is not neutral. A high alkaline environment can cause salts to creep up through the cement called efflorescence. These salts have a tendency to prevent or destroy the bonding of coatings to the concrete. The most common form of testing is the use of a wide-range pH paper or tape. Make sure the floor's pH reading ranges between 5-9 to ensure adhesion. The testing of concrete for alkalinity can show the amount of alkalinity only at the time the test is ran, and cannot be used to predict long-term conditions.

Calcium chloride tests should be conducted to determine if the concrete is sufficiently dry for an epoxy flooring installation (below 4.5 lbs/1000ft²/24hrs). The calcium chloride tests should be conducted in accordance with the latest edition of ASTM F 1869, *Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride*. When running a calcium chloride test, it is important to remove any grease, oil, curing agents, etc. so accurate readings can be obtained.

Failing to adhere to these strict guidelines can result in product delamination, discoloration, blistering, or all together failure of the coating system. Testing is the responsibility of the applicator, and E.W. Industries Ltd. bears no responsibility for failures due to any of the above pre-existing concrete conditions.

Step 2: Prepare the Concrete Surface

Concrete surfaces shall be diamond grinded or shot blasted to remove all surface contaminants and laitance. The concrete should be at least 2500 psi and have an ICRI concrete surface profile within 3-5, (i.e. the surface should be equivalent to 50 grit sandpaper or lower). After initial preparation has occurred, inspect the concrete for high spots, cracks, divots, and other imperfections and treat as necessary. Allow concrete to breathe for a minimum of 24 hours after preparation. Any voids need to be filled using Sierra Stone Vertical Epoxy, or equivalent concrete patching material. Any high spots need to be ground smooth. For surface preparation recommendations please call E.W. Industries Ltd.

All expansion joints should be honored. Cracks should be chased with a diamond crack chaser (approximately 1/4" x 1/4"), swept or blown clean.

When applying over existing epoxy products, sand the surface with a floor buffer and 100 grit sand paper, remove debris and roll or wipe with acetone just before new application.

Notes on Temperature

Do not apply when ambient temperatures are below 50°F or above 95°F. The concrete temperature must be at least 5°F above the dew point. Applications should occur during the cooler season to decrease the chances of outgassing, and should not be applied in direct sunlight, if possible.

Step 3: Apply EnduraFlake Base Coat and Broadcast Paint Chips

Start by mixing a half-unit: ½ Gallon of Part A Resin with ¼ Gallon of Part B Hardener. The mixing ratio must always be 2 parts A Resin to 1 part B Hardener, by volume. Mix materials thoroughly in a clean container with a low speed (400-600 rpm) drill motor/jiffy mixer for 2-3 minutes. Make sure to scrape the sides and bottom of the container during mixing. **Do not mix more than 1 full unit (1.5 gallons) at a time.**

Apply with 3/8" non-shedding nap roller, notched trowel or squeegee. 1 gallon should cover approx. 200 sq. ft. (1.5 gal kit covers 300 sq. ft.). Using an 18" wide epoxy roller can help provide optimum coverage and speed.

Applicator should be wearing metal spiked shoes while walking over wet epoxy. ¼" Acrylic Paint Chips should be broadcasted to refusal into the wet EnduraFlake Basecoat; 1 lb of paint chips should cover approximately 10 sq. ft. Be sure to stir the box of Acrylic Paint Chips prior to broadcasting: this will ensure even color distribution. Allow to cure overnight. After cured, heavily scrape, sand, sweep, and vacuum loose paint chips.

Step 4: Apply EnduraFlake Top Coat

Pre-mix each component of EnduraFlake Top Coat (i.e. part A and part B) in their individual containers. Add 1 part of the A-Side to 1 part of the B-Side while mixing, using a mechanical mixer (Jiffy Mixer) at low to medium speeds. **DO NOT THIN.** Mix for 3 minutes until a homogeneous mixture and streak-free appearance is attained. Be sure to scrape the sides of the container to ensure that no unmixed material remains.

Immediately after mixing, spread a strip of the batch onto the surface along the edges where it will be cut-in using a brush. Leave remaining material in bucket and spread evenly using a 3/8" non-shedding nap roller cover beginning near the cut in area. Apply quickly, cross-roll to ensure adequate coverage, but avoid over rolling, as product will begin to "tack-up" as it begins to cure. Working time is approximately 20 minutes. Applying with an 18" wide epoxy roller is beneficial at this stage as well.

Re-coat if necessary *within* 24 hours of application to insure adhesion. If a delay occurs, it is recommended that the surface be sanded and wiped clean with acetone before reapplication.

Safety

Individual MSDS (Material Safety Data Sheets) must be read and understood by personnel responsible for supervision and installation of the EnduraFlake Floors System. All applicable federal, provincial, state, local, and particular plant safety guidelines must be followed during the handling and installation and cure of these materials. Safe and proper disposal of excess materials shall be done in accordance with applicable federal, provincial, state, and local codes.

Material Storage

Store materials in a temperature controlled environment (50°F to 90°F) and out of direct sunlight. Keep resins, hardeners, and solvents separated from each other and away from sources of ignition. One year shelf life is expected for products stored between 50°F to 90°F. (See batch number for manufactured date)

Maintenance

The EnduraFlake Floors System should be inspected every 2-3 years and resealed as necessary. Reseal the system when required by lightly sanding surface and wiping with acetone, then applying the EnduraFlake Top Coat according to the original installation guidelines.

E.W. Industries Ltd. recommends the use of angular slip resistant aggregate in all coatings or flooring systems that may be exposed to wet, oily or greasy conditions. It is the contractor and end users' responsibility to provide a flooring system that meets current safety standards.

Clean Up

Uncured material can be removed with a solvent. Cured material can only be removed mechanically. All empty containers must be disposed of according to local, provincial, state, and federal regulations.

Warranty

E.W. Industries Ltd. guarantees that this product is free from manufacturing defects and complies with our published specifications. In the event that the buyer proves that the goods received do not conform to these specifications or were defectively manufactured, the buyer's remedies shall be limited to either the return of the goods and repayment of the purchase price or replacement of the defective material at the option of the seller. E.W. Industries Ltd. makes no other warranty, expressed or implied, and all warranties of merchantability and fitness for a particular purpose are hereby disclaimed. Manufacturer or seller shall not be liable for prospective profits or consequential damages resulting from the use of this product. Manufacturer shall not be liable for material used outside of its shelf life. For product dating, please refer to the batch number on the product or contact E.W. Industries Ltd.

Technical Data for EnduraFlake Top Coat

	Test Method	Results
Shelf Life		6 months
Mixing Ratio by Volume A:B		1:1
Dry Film Thickness per Coat:	ASTM D-3363	4-7 mils
Tear Resistance DleC	ASTM D-1004-66	270 pli
Tensile Strength	ASTM D-412	3980 psi
Ultimate Elongation	ASTM D-412	8-10%
Gloss (60 deg)	ASTM D-823	90
Volume Solids	ASTM D-2697	73% by volume
VOC	ASTM D 2369-81	<50 g/l
Pot Life (75±30F)		30 minutes
Recoat Time		7 hrs (min) -24 hrs (max)
Taber Abrasion	ASTM D-4060-84	33.9 mg Loss, C17 Wheel, 1000g Load, 1000 Cycles
Impact Resistance	ASTM D-2794-84	Inch-pounds Direct 120 Reverse 90
Pencil Hardness	ASTM D-3363-84	2-H
Pendulum Hardness	After 1 Day	43 Seconds
	After 7 Days	168 Seconds
Viscosity at 75 F(24 C) 50% RH		A-SIDE 350-400 cps B-SIDE 200-300 cps
Weight		A-SIDE 9.9 lbs/gal B-SIDE 9.2lb
14 Days Cured	4 hrs	24hrs
50% Sulfuric Acid	Slight Soften	Blister
10% Sulfuric Acid	No Effect	No Effect
10% Hydrochloric Acid	No Effect	No Effect
50% Ammonium Hydroxide	No Effect	No Effect
50% Sodium Hydroxide	No Effect	No Effect
IPA - Iso-Propyl Alcohol	No Effect	No Effect
MEK - Methyl Ethyl Ketone	No Effect	No Effect
Deionized (Water)	No Effect	No Effect
10% Betadine	No Effect	No Effect
Break Fluid	No Effect	No Effect
Gasoline	No Effect	No Effect