

## PRODUCT DATA

9<sup>09 67 23</sup> Resinous  
Flooring

# SELBACLAD 415

## Trowel-applied decorative epoxy flooring system

### Description

Selbaclad 415 is a 1/4" (6 mm) polymeric flooring system composed of 100% solids, tinted, epoxy resin components and specially graded aggregates. It is a trowel-applied, tinted clad layer with a clear finish coat. This flooring system yields heavy-duty performance similar to Selbaclad 425 with a decorative natural-aggregate look.

### Yield

Primer: 250 ft<sup>2</sup>/gallon (6.25 m<sup>2</sup>/L)

Base coat: 48 ft<sup>2</sup>/batch (4.5 m<sup>2</sup>/L)

Grout coat: 50 – 200 ft<sup>2</sup>/gallon  
(1.25 – 5 m<sup>2</sup>/L)

Topcoat: 250 ft<sup>2</sup>/gallon (6.25 m<sup>2</sup>/L)

Coverage rates assume a 1/4" (6 mm) total system thickness. All rates are approximate and will vary with the desired texture and the porosity of the concrete.

### Packaging

1 gallon (3.79 L) cans

5 gallon (18.95 L) pails

55 gallon (208 L) drums available by special order

Aggregate: sold in bags

### Features

- Specially graded aggregates
- Available with Selbabioc anti-microbial protection
- Clear topcoat
- Temperature service range of 0 to 170° F (-18 to 76° C)
- Good abrasion, chemical, and impact resistance
- Versatile
- 100% solids

### Color

Base coat: 12 standard colors; see the Selby™ Color Selector for details

Topcoat: clear only

Custom colors are subject to minimum quantities, increased manufacturing lead-times, and premium pricing. Refer to the Selby™ Color Selector for more information.

### Shelf Life

Epoxy base coats: 2 years when properly stored.

Polyurethane topcoats: 1 year when properly stored.

### Storage

Store and transport in unopened containers in a clean, dry area. Protect from freezing.

### Where to Use

#### APPLICATION

- Where a high level of impact and chemical resistance is required
- Selbaclad 415 withstands forklift and heavy foot traffic as well as impacts
- Correctional facilities
- Cafeterias, food-preparation and service areas
- Laboratories
- Aisles
- Clean rooms

### Benefits

- Formulated for heavy-duty use
- Does not sustain bacteria, yeast, and fungi growth
- Reveals decorative aggregate body coat
- Ideal for hot and cold environments
- Requires little maintenance
- Can be used with Selby™ membranes
- Low odor; VOC compliant

#### LOCATION

- Interior only

#### SUBSTRATE

- Over new and existing concrete floors and toppings; for other substrates, contact Technical Service

### How to Apply

Selby™ systems are installed by approved contracting firms. Selby™ is a globally branded product line with industry synergies around the world.

The following is only a summary of the installation techniques used by Selby™ approved contractors.

#### Surface Preparation

1. Floors must be structurally sound and fully cured a minimum of 28 days. Test floor for vapor drive in accordance with ASTM D 4263.
2. Repair concrete as necessary.
3. Use a commercial degreaser to clean floors of oil, grease, and other bond-inhibiting materials.
4. Remove curing and parting compounds and other surface hardeners and floor coatings in accordance with the manufacturer's instructions.

## Technical Data

### Composition

Selbaclad 415 is an epoxy resin system with specially-graded aggregates.

### Typical Properties

| PROPERTY  | VALUE      |
|---|------------|
| <b>Weight</b> , lbs/ft <sup>2</sup> (kg/m <sup>2</sup> ),<br>at 1/4" (6 mm) thickness | 2.4 (11.7) |

### Test Data

| PROPERTY   | RESULTS                                   | TEST METHODS |
|--|---|--------------|
| <b>Compressive strength</b> , psi (MPa)  | 13,100 (92)                               | ASTM C 579   |
| <b>Tensile strength</b> , psi (MPa)  | 8,000 (56)                                | ASTM D 638   |
| <b>Flexural strength</b> , psi (MPa)   | 4,990 (34)                                | ASTM D 790   |
| <b>Surface flammability</b>  |   |              |
| Flame spread index   | 9.29                                      | ASTM E 162   |
| Smoke deposit, mg/ms   | 0.1                                       |              |
| NBS Class  | 1   |              |
| <b>Rate of burning</b>   | Self-extinguishing                        | ASTM D 635   |
| <b>Abrasion resistance</b> , mg loss;<br>C-1 Wheel, 1,000 g load, 1,000 cycles | 0.070                                     | ASTM D 4060  |
| <b>Hardness</b> , Shore D  | 75 – 85                                   | ASTM D 2240  |
| <b>Indentation</b> , inches,   |   | MIL-D-3134   |
| Initial  | 0.007 (0.6%)                              |              |
| 24 hr residual   | 0.0 (0%)                                  |              |
| <b>Impact resistance</b>   | No chipping, cracking,<br>or delaminating | MIL-D-3134   |
| <b>Fire resistance</b>   | Fire retardant                            | MIL-D-3134   |
| <b>Adhesive strength</b> , psi (MPa)   | 350 (2.5)<br>100% concrete failure        | ASTM D 4541  |
| <b>Slip-resistant properties</b>   | Minimum 0.8<br>Exceeds ADA requirements   | MIL-D-3134   |
| <b>Oil absorption</b>  | Nil                                       | MIL-D-3134   |
| <b>Water absorption</b>  | Nil                                       | MIL-D-3134   |
| <b>Heat resistance</b> ,<br>at 158° F for 5 hours                              | No flow, slip, or softening               | MIL-D-3134   |

Unless otherwise noted, test samples were cured 7 days at 73° F (23° C).

### Chemical Resistance

In accordance with ASTM D 1308, Selbaclad 415 with the standard epoxy finishing coat will resist spills and exposures for up to 7 days at 72° F (22° C) for the following chemicals.

- Dilute mineral acids, including hydrochloric (< 30%), phosphoric (< 20%), and sulfuric (< 50%)
- Alkalis, including potassium hydroxide to 50% concentration
- Some dilute organic acids, such as acetic (30%), formic, citric, and uric
- Fats, oils, and sugars
- Mineral oils, diesel fuel, kerosene, and gasoline
- Some organic solvents, including aliphatic hydrocarbons

Full chemical resistance is achieved after curing for 7 days. For resistance to a specific chemical compound, consult the Selby™ Chemical Resistance Guideline.

5. Mechanical surface profiling is the method of surface penetration for both new and existing floors. Mechanically profile the floor to a minimum CSP 4 as described by the International Concrete Repair Institute.

6. Apply a 5 by 5 ft (1.52 by 1.52 m) test in an inconspicuous area that meets the owner's expectations for appearance, slip resistance, and performance.

### Mixing

1. Mix the components for this product in the following ratios.

| APPLICATION | COMPONENTS                                   | MIX RATIO            |
|-------------|--|----------------------|
| Primer      | A750 / B725                                  | 2 to 1               |
| Base coat   | A755 tinted / B725 / EMR or EMR PT Aggregate | 2 to 1 to aggregate* |
| Grout coat  | A750 / B725                                  | 2 to 1               |
| Topcoat     | A750 / B725                                  | 2 to 1               |

\* Add 2 bags of aggregate for every 1-1/2 gallons of mixed resin.

2. Properly mix each component separately before mixing together to ensure uniform consistency.

3. Combine Parts A and B in a suitably sized container. Use the proper ratios of A and B; scrape the sides of the containers to ensure a complete reaction.

4. Mix properly for 3 minutes with a slow-speed drill and Jiffy-style mixing paddle at 350 rpms. Keep the paddle below the surface to avoid entrapping air. Do not mix by hand.

### Priming

Apply the mixed primer to the properly prepared concrete at 250 ft<sup>2</sup>/gallon at 6 – 8 mils. The base coat can be applied over the wet primer coat.

### Application

#### BASE COAT – HAND TROWELING

Add 100 lbs of EMR aggregate to each 1-1/2 gallon batch of mixed Part A and B. Apply at approximately 48 ft<sup>2</sup>/batch (4.5 m<sup>2</sup>/batch) to a 1/4" (6 mm) nominal thickness or to the specified depth. Allow to cure 12 – 24 hours.

#### BASE COAT – POWER TROWELING

Repeat the steps above under hand troweling, but use EMR PT (power-trowel) grade aggregate instead. Allow to cure 12 – 24 hours.

### GROUT COAT

Use a squeegee or trowel to install the clear grout coat at 50 – 200 ft<sup>2</sup>/gallon (1.25 – 5 m<sup>2</sup>/L) at 8 – 32 mils. The grout coat must completely seal the porous base coat. Allow to cure 12 – 24 hours.

### FINISH COAT

1. Apply the clear topcoat at 250 ft<sup>2</sup>/gallon (6.25 m<sup>2</sup>/L) at 6 – 8 mils. Spread the coating by squeegee or trowel and backroll. The total thickness should be a minimum of 1/4" (6 mm), depending on the specification.

2. Allow 24 hours to cure. Do not expose the finished floor to chemicals until fully cured, a minimum of 7 days.

3. Substitute a finish coat of N300CR for A750 / B725, if required.

NOTE: Various curing agents can be used to achieve desired application properties; refer to the Selby™ 700 product data guide.

### Drying Time

Primer: 12 – 24 hours (base coat can be applied wet on wet)

Base coat: 12 – 24 hours

Grout coat: 12 – 24 hours

Topcoat: 24 hours

Recoat window: 12 – 24 hours

Drying times assume 70° F (21° C) and 50% relative humidity.

### Maintenance

Regular cleaning and maintenance will prolong the life of all polymer flooring systems, enhance their appearance, and reduce any tendency to retain dirt.

### For Best Performance

- Do not exceed the recommended recoat window of 24 hours; if in doubt, contact your flooring specialist.
- Precondition this product to 70° F (21° C) for 24 hours before using.
- Do not expose the Selbaclad 415 flooring system to any chemicals until fully cured (7 days).
- Use an effective moisture vapor barrier for substrates on or below grade; if not present, contact your Selby™ flooring specialist for options.
- Install these products at a substrate temperature between 50 and 85° F (10 and 30° C).

- For resistance to chemicals, consult the Chemical Resistance Guide.
- The maximum service temperature is 175° F (79° C).
- Rapid temperature cycling can lead to premature failure of this product.
- As an alternative to the topcoat, apply clear N300 CR polyurethane for increased abrasion resistance, color retention, and UV stability.
- Before the job starts, the architect and owner should address joint details with the flooring contractor.
- BASF representatives and flooring specialists are available to assist you in the selection of the proper coating system. Call 1-888-243-6739 for in-house and field technical assistance.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

### Health, Safety and Environmental

Read, understand and follow Material Safety Data Sheets and product labels for all components of this flooring system prior to use. The MSDS can be obtained by searching for them on [www.BuildingSystems.BASF.com](http://www.BuildingSystems.BASF.com), e-mailing your request to [basfbcst@basf.com](mailto:basfbcst@basf.com) or calling 800/433-9517. Use only as directed.

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