

Flowfresh® HF**Heavy Duty Cementitious Urethane
Trowel-Applied Industrial Floor System****Technical Data Sheet****DESCRIPTION:**

Flowfresh® HF is a three-component antimicrobial cementitious urethane floor resurfacer. This heavy-duty, trowel-applied floor topping incorporates specially graded aggregate to produce a highly durable floor with slip resistant finish. Flowfresh® HF offers exceptional chemical, abrasion impact and thermal shock resistance for interior and exterior application.

To protect the floor, all Flowfresh® products include Polygiene®, a built in, high-performance antimicrobial additive that inhibits growth of bacterial odors and guards against degradation from microorganisms.

**TYPICAL USES:**

- Battery charging rooms
- Beverage processing, distilleries
- Chemical processing/refineries
- Containment areas
- Dairies, milk processing
- Food processing
- Freezers & coolers
- Fryer areas
- Institutional and commercial kitchens
- Manufacturing, heavy duty
- Pharmaceutical manufacturing
- Restaurant kitchens

ADVANTAGES:

- Withstands thermal shock & thermal cycling
- Superior chemical, impact, abrasion resistance
- Positive slip resistance
- Low odor, zero VOC formulation
- Can be applied to green concrete; withstands higher levels of moisture vapor transmission **
- Built in Polygiene® performance antimicrobial
- Integral cove base/curb (Flowfresh® CM)

** Consult Technical Service for limitations

GENERAL PRODUCT INFO:

Standard Colors:	Red and Gray
Coverage:	See "coverage" section
Pot Life:	10 minutes @ 68°F
Application Method:	Gauge Rake, Trowel
Cure Rate:	6-24 hours
Shelf Life:	6 months unopened

TYPICAL PHYSICAL PROPERTIES:

TEST TYPE	TEST METHOD	TYPICAL VALUE
Compression Strength:	ASTM C-579	8,000 psi
Tensile Strength:	ASTM C-307	900 psi
Flexural Strength:	ASTM C-580	2,900 psi
Impact Strength:	ASTM D-4226	>160 in/lbs.
Abrasion Resistance:	ASTM D-4060	25 mg loss
Bond Strength:	ASTM D-4541	>300psi
Heat Resistance:	Maximum	250°F
Microbial / Fungal Control*:	A.A.T.C.C. Test Method 147-1993	100% Contact Inhibition

**The inclusion of Polygiene® within the screed matrix of the industrial floor system ensures the permanency of this biocidal additive even in the event of excessive surface wear. Polygiene employs ionic silver, a natural antimicrobial agent with well-known efficacy. Silver ions continuously migrate to the contact surface where, through multiple mechanisms of action, they inhibit growth of microorganisms. This antimicrobial process remains active 24 hours a day, 7 days a week.*

PACKAGING:

Kits are packaged in pre-proportioned containers as follows:

- 1 container of Part A
- 1 container of Part B
- 1 bag of aggregate Part C

FLOWFRESH® BODY COAT COVERAGE:

HF:	21 ft. ² per kit @ 1/4"
	17 ft. ² per kit @ 3/8"

LIMITATIONS:

- Please consult Technical Service for application over new concrete less than 28-day cure. Do not apply to previously treated concrete with curing and parting compounds or other epoxy/urethane coatings, unless they have been completely removed by chemical or mechanical means.
- **Protect from freezing.**
- Can be used on quarry tile, dairy tile, and acid brick if the supporting substrate is sound. Contact your local Valspar flooring representative for additional information.
- Do not apply if air temperature is within 5°F of dew point.
- Do not apply if the floor or air temperature is below 40°F or over 85°F or if the relative humidity is above 85%.
- Do not apply over honeycombed or structurally unsound surfaces.
- **Do not thin this product.**
- Before applying for protection against specific chemical environments, consult Chemical Resistance Guide or Technical Service.
- If the product is to be applied in or near areas containing food products, they should be removed before the application and until the coating has fully cured and all vapors have dissipated.
- Technical Data Sheets are updated periodically. To ensure the current version is being used, please visit the Technical Resources portion of Valspar Flooring's website at www.valsparflooring.com.
- Proper material application is the responsibility of the user. Site visits by Valspar personnel are for making technical recommendations only and not for supervising or providing quality control.

PRELIMINARY FLOOR INSPECTIONS:

In general, the area to be surfaced must be clean, sound, dry and above 45°F to assure a successful installation. Concrete must be at least 28 days old. Consult Technical Service for application over concrete less than 28-day cure.

Always be alert to any possible airborne or surface contaminants, which may contribute to problems such as fisheyes, crawling, cratering, etc.

The concrete floor should be examined for the presence of moisture. This can be accomplished by the following means:

Calcium Chloride Test: This test method works by a change in weight of moisture absorbing anhydrous calcium chloride and indicates the amount of moisture transmitting out of a large concrete surface area. Pounds is the equivalent weight of the water that is emitted from a 1,000 square foot concrete slab surface area in a 24-hour period of time (standard test duration is 60 hours). Concrete must not show moisture content greater than three pounds per 1,000 square feet in 24 hour time frame. Follow instructions as outlined by the supplier of the test kits. Make sure the concrete surface to be tested is completely clean of any residue and any debris. All seals, including curing compounds must be removed prior to performing tests. Sources: Roofing Equipment Inc., Denver, CO 303-371-7667; Sealflex Industries Inc., Costa Mesa, CA 714-708-0850; Vinyl Plastics Inc., Sheboygan, WI 920-458-4664; and Floor Seal Technology, San Jose, CA 408-436-8181

SURFACE PREPARATION:

All oil, grease, wax, laitance, curing compounds, water-soluble concrete hardeners and other surface contaminants must first be removed. Inspect the concrete and remove loose or soft concrete by shot blasting or scarifying.

STANDARD TESTS:

Refer to the standard test methods below for further information.

ASTM D 4258-83	Standard practice for surface cleaning concrete for coating
ASTM D 4259-83	Standard practice for abrading concrete

MECHANICAL PREPARATION:

Mechanically abrade or "shot-blast" the surface to the texture of medium/heavy grade sandpaper. Alternate methods may include scarifying. All terminations and transitions should have a saw cut and be chased approximately 3/8" deep. Saw cuts should be installed around the perimeter of the area, approximately 6"-12" from the wall. They should also be installed around drains, equipment and pads, as well as every 8'-12' over the concrete substrate. Sweep and vacuum remaining dust.

Whenever "shot-blasting" is utilized, be careful to leave concrete with a uniform texture. Over "blasting" will result in reduced coverage rates.

APPLICATION:

Before proceeding with the mixing and application of Flowfresh® HF, the surface should be checked to make sure it is properly prepared and the temperature of the area and floor is above 40°F. In addition, a mixing area should be set up nearby with the necessary equipment and materials are in order. Material should be stored in a dry area at 50-65° F. Cold material will significantly reduce application properties.

Patching:

If patching is required, Flowfresh® HF can be used to depths of ½".

Expansion Joints:

Cut control joints in flooring with concrete saw. Clean with wire brush and blow or vacuum clean. Joints should be clean, dry and free of any dirt, laitance or any other surface contaminants.

Edge Terminations:

Chasing floor edges is recommended to distribute thermal and mechanical stresses. "Key" all points of termination.

Mixing and Application:

- Use a drill and jiffy to pre-mix the part A resin for 1-2 minutes. Pour part A resin into mixing vessel. (Bucket or mortar mixer is recommended.)
- Pour in part B hardener and mix for 30 seconds minimum.
- Add part C aggregate slowly at a rate of 30 seconds per bag. Continue mixing until all the aggregate is wetted out.
- Quickly transport mixed material to the area to be overlaid. Using a screed box, pour the mixed material into the screed box, the height of the screed box should be set per the required thickness. Pull the screed box from right to left across the concrete. Finish the HF using a steel hand trowel or pool trowel, closing up the material and removing any screed marks or trowel marks. Do not finish the edge as the next path with the screed box should be transitioned into it. Moving quickly continue to apply the material. After material is applied at the desired thickness and troweling is completed, immediately roll up and back with a 3/8" nap roller.
- A screed rake or gauge rake may also be used to place the HF material. Pour mixed material onto the floor in a ribbon pattern. Using a screed rake, gauge rake place the material at desired thickness. Moving quickly continue to place mixed material, blending it into the previous path, within 10 minutes. Using a steel trowel or pool trowel close up an screed marks or trowel marks.
- After the material is at the desired thickness, immediately roll with a 3/8" nap roller up and back through the material.

Topcoat for Flowfresh HF:

It is not required to topcoat the HF, but the recommended topcoat is Flowfresh® FC Coating or utilizing one of the epoxies or urethanes from the Valspar line. Please refer to the data sheet for application instructions.

NOTE: If a topcoat other than the Flowfresh® FC is used, the performance properties of the antimicrobial agent Polygiene® will be sacrificed.

POT LIFE:

Approximately 10 minutes at 68°F.

CURE TIME:

At a cure temperature of 68°F, allow 12 hours for foot traffic, 24 hours for light to medium loads and allow 48 hours for heavy fork lift traffic and chemical spillages. Fully cured after 7 days.

MAINTENANCE:

Please consult the manufacturer regarding maintenance information.

SAFETY:

For detailed safety guidelines, please refer to the product Material Safety Data Sheet (MSDS). For additional information, contact your local representative.

CLEAN UP:

Solvents such as Xylene can be used.

REFER TO MATERIAL SAFETY DATA SHEET FOR FURTHER SAFETY AND HANDLING INFORMATION.

See individual labels for more caution statements.

KEEP OUT OF THE REACH OF CHILDREN.

DISPOSAL:

Dispose in accordance with federal, state, and local regulations. Use licensed hazardous waste company.

Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned.

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