

### PRODUCT DESCRIPTION

Stonshield HRI is a nominal 3/16 in./5 mm thick durable flooring system with a decorative, slip resistant surface. Its troweled base provides superior impact resistance and allows the Stonshield HRI to be applied over rough substrates. The color quartz broadcast topshield layer results in an attractive floor surface that is textured for safety. This seamless overlayment has no joints or seams to harbor dirt and bacteria and resists attack by most acids and alkalis. It is comprised of:

#### *Stonshield HRI Base*

A three-component, troweled mortar base consisting of epoxy resin, curing agent and finely graded silica aggregate

#### *Stonshield Undercoat*

A three-component, free flowing epoxy formulation consisting of resin, curing agent and fine aggregate

#### *Stonshield Aggregate*

Brightly colored, quartz broadcast aggregate

#### *Stonshield Sealer*

A two-component, high performance, UV resistant, clear epoxy sealer

### USES, APPLICATIONS

Stonshield HRI is ideally suited for a wide variety of applications, such as food preparation areas, supermarkets, bakeries, wet packaging and light manufacturing areas.

### SUBSTRATE

Stonshield HRI, in conjunction with its appropriate primer, is suitable for application over properly prepared concrete, both new and old. It is also designed for renovation work over wood or sound brick and quarry tile. Stonshield HRI is not recommended over asphalt, mastic, gypsum based products or painted surfaces. These must first be removed by mechanical means prior to priming and overlayment.

### SYSTEM OPTIONS

#### *Waterproofing*

Where the total system must be waterproof, use of Stonhard's Stonproof ME7 membrane system is required with strict adherence to application instructions.

#### *Cove Base*

To provide an integral seal at the joint between the floor and the wall, cove bases in heights from 2 to 6 in./5 to 15 cm are available.

#### *Standard or Medium Texture*

Stonshield Sealer is applied at a thickness that will produce the desired texture.

### PHYSICAL CHARACTERISTICS

<b>Compressive Strength</b> .....	10,000 psi
(ASTM C-579)	after 7 days
<b>Tensile Strength</b> .....	2,000 psi
(ASTM C-307)	
<b>Flexural Strength</b> .....	4,300 psi
(ASTM C-580)	
<b>Flexural Modulus of Elasticity</b> .....	$2.0 \times 10^6$ psi
(ASTM C-580)	
<b>Hardness</b> .....	.85 to 90
(ASTM D-2240, Shore D)	
<b>Bond Strength</b> .....	>400 psi
(ASTM D-7234)	(100% concrete failure)
<b>Impact Resistance</b> .....	>160 in./lbs.
(ASTM D-2794)	
<b>Abrasion Resistance</b> .....	0.06 gm max. weight loss
(ASTM D-4060, CS-17)	
<b>Coefficient of Friction (Dry))</b> .....	Standard Texture >1.0
(ASTM F-1679)	Medium Texture 0.96
<b>Slip Resistance Index (Wet)</b> .....	Standard Texture >1.0
(ASTM F-1679)	Medium Texture 0.93
<b>Flammability</b> .....	Class I
(ASTM E-648)	
<b>Thermal Coefficient of</b>	
<b>Linear Expansion</b> .....	$1.8 \times 10^{-5}$ mm/mm°C
(ASTM C-531)	
<b>Water Absorption</b> .....	0.1%
(ASTM C-413)	
<b>Heat Resistance Limitation</b> .....	140°F/60°C
	(for continuous exposure)
	200°F/93°C (for intermittent spills)
<b>Cure Rate</b> .....	12 hours for foot traffic
(@ 77°F/25°C)	24 hours for normal operations

**Note:** The above physical properties were measured in accordance with the referenced standards. Samples of the actual floor system, including binder and filler, were used as test specimens.

#### *Recycled Glass Content*

It is possible to obtain 4 LEED points by using standard Stonshield HRI. Using the epoxy mortar system containing 30% recycled materials and rapidly renewable soy based components can help provide an additional 2 LEED points.

## PACKAGING

Stonshield HRI is packaged in units for easy handling. Each unit consists of:

### *Stonshield HRI Base*

2 cartons, each containing:

- 6 foil bags of Part A (curing agent)
- 6 poly bags of Part B (resin)

12 individual bags of Part C (aggregate)

### *Stonshield Undercoat*

0.75 carton containing:

- 6 foil bags of Part A (curing agent)
- 6 poly bags of Part B (resin)

0.75 carton containing:

- 6 bags of Part C-1 (aggregate)

### *Stonshield Aggregate*

6 individual bags of colored quartz aggregate

### *Stonshield Sealer*

#### *Standard Texture*

0.75 carton containing:

- 6 foil bags of Part A (curing agent)
- 6 poly bags of Part B (resin)

#### *Medium Texture*

One carton containing:

- 6 foil bags of Part A (curing agent)
- 6 poly bags of Part B (resin)

## COVERAGE

Each unit of Stonshield HRI will cover approximately 300 sq. ft./27.9 sq. m of surface at a nominal 3/16 in./5 mm thickness.

## STORAGE CONDITIONS

Store all components of Stonshield HRI between 60 to 85°F/16 to 30°C in a dry area. Avoid excessive heat and do not freeze. The shelf life is 3 years in the original, unopened container.

## COLOUR

Stonshield HRI is available in 2 solid colours and 10 tweed pattern standard colours. Refer to the Stonshield Colour Sheet. Custom colours are available upon request.

## SUBSTRATE PREPARATION

Proper preparation is critical to ensure an adequate bond. The substrate must be dry and free of all wax, grease, oils, fats, soil, loose or foreign materials and laitance. Laitance and unbonded cement particles must be removed by mechanical methods, i.e., abrasive blasting or scarifying. Other contaminants may be removed by scrubbing with a heavy-duty industrial detergent (Stonkleen DG2) and rinsing with clean water. The surface must show open pores throughout and have a sandpaper texture. For recommendations or additional information regarding substrate preparation, contact Stonhard's Technical Service Department.

## PRIMING

The use of Standard Primer is necessary for all applications of Stonshield HRI base over all substrates except Stonset grouts. Over Stonset grouts, Stonhard's Stonset Primer is used. Standard or Stonset Primer must be tacky during the application of Stonshield HRI base. If the primer becomes tack-free, the area must be re-primed prior to continuing the application.

## MIXING

Due to the variety of system configurations available for Stonshield HRI, consult the Stonshield HRI Directions for details.

## APPLYING

Application of the Stonshield HRI system is accomplished as follows:

1. Stonshield HRI Base is mixed, screed applied and troweled to a tightly closed finish. Allow for at least an 8 hour cure.
2. Next, lightly grind the HRI Base. Then the Stonshield Undercoat is mixed and applied to the floor surface using a steel squeegee and looped roller to uniformly distribute the material and promote surface leveling.
3. Stonshield Aggregate is broadcast into the freshly rolled undercoat using a Stonhard Spraycaster to ensure even distribution of the aggregate. Allow at least 8 hours to cure.
4. Scrape the floor with a steel squeegee, sweep to remove loose aggregate, then vacuum.
5. Stonshield Sealer is then mixed and applied. For a standard texture, the sealer is applied using a rubber squeegee and then rolled using a medium nap roller. For a medium texture, the sealer is applied using a rigid rubber squeegee and then rolled using a saturated medium nap roller.

Refer to Stonshield HRI Directions for further detail.

## RECOMMENDATIONS

- DO NOT attempt to install material if the temperature of Stonshield HRI components and substrate are not within 60 to 85°F/16 to 30°C. The cure time and application properties of the material are severely affected.
- DO NOT use water or steam in the vicinity of the application. **Moisture can seriously affect the working time and other properties.**
- The use of safety glasses and impervious gloves is required during application.
- Avoid contact with all liquid Parts A and B as they may cause skin and/or eye irritation.
- The use of safety glasses and impervious gloves is required during application.
- Use only with adequate ventilation.

## NOTES

- Procedures for cleaning of the flooring system during operations can be found in the Stonhard Floor Maintenance Guide.
- Specific information regarding chemical resistance is available in the Stonshield Chemical Resistance Guide.
- Material Safety Data Sheets for Stonshield HRI are available on line at [www.stonhard.com](http://www.stonhard.com) under Tech Info or upon request.
- A staff of technical service engineers is available to assist with installation or to answer questions related to Stonhard flooring products.
- Requests for technical service or literature can be made through local sales representatives and offices, or corporate offices located worldwide.

**IMPORTANT:**

Stonhard believes the information contained here to be true and accurate as of the date of publication. Stonhard makes no warranty, expressed or implied, based on this literature and assumes no responsibility for consequential or incidental damages in the use of the systems described, including any warranty of merchantability or fitness. Information contained here is for evaluation only. We further reserve the right to modify and change products or literature at any time and without prior notice.

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