

DESCRIPTION

Stonguard E is a solvent-free polyurethane-MMA(PUMMA) and methyl methacrylate based flexible exterior deck coating system which provides a crack bridging, waterproof, long wearing surface for use over outdoor decks, parking garages and walkways.

USES/APPLICATIONS

Stonguard E reduces tire noise, improves safety and provides an attractive, clean environment. Stonguard E is suitable for refurbishment of existing decks or new construction projects.

BENEFITS:

- Aesthetic – lightens up garages and walkways
- Reduces noise – stops typical tire squeal
- Highly abrasion resistant
- Solvent-free
- Slip resistant
- Crack resistant – bridges existing cracks
- Excellent bond strength
- Fast track installations
- Low temperature installations – up to - 20°C

MODEL SPECIFICATION

Product: Stonguard E – Exterior Deck Membrane

Finish: Gloss

Thickness: 2-3 mm

System Components:

Stonguard Primer

A two component, low viscosity, methyl methacrylate primer to provide a strong, secure bond.

Stonguard Elastomeric Membrane

A two component, low viscosity, polyurethane-methyl methacrylate based membrane to provide both flexibility and crack bridging.

Stonguard Bodycoat

A two-component, low viscosity, semi-flexible methyl methacrylate bodycoat to hold the broadcast aggregate and provide system thickness.

Stonguard Aggregate

An emeraldum, aluminum oxide or quartz aggregate broadcast to provide a modifiable abrasion and wear resistant surface.

Stonguard Sealer

A two component, low viscosity, low flexibility, methyl methacrylate sealer to seal the broadcast aggregate.

Stonguard UV Sealer

A two component, low viscosity, pigmented, rigid, UV resistant, methyl methacrylate topcoat.

PHYSICAL CHARACTERISTICS

The figures that follow are typical properties achieved in laboratory tests at 20°C and at 50% Relative Humidity

Tensile Strength	MPa
(BS 2782: Part 3 Method 320A)	
	1 day – 5.4
	7 day – 7.15
	28 day – 7.17
Elongation	Membrane – >350%
(BS 2782: Part 3 Method 320A)	Bodycoat – 160%
	Sealer – 30%
	UV Sealer – 4%
Bond Strength	> 300 psi
(ASTM D-4541)	(100% concrete failure)
Fire Resistance	Designated EXT.FAA
(BS 476-3)	
Slip Resistance	Dry - 1.20
(ASTM F-1679)	Wet - 0.95
Temperature Resistance	Softens over 70°C
	(Hardens upon cooling)
Low Temperature Flexibility	No failure of membrane
(MOAT 27: Method 5.4.2)	layer at – 20°C
Abrasion Resistance	0.04 g max. weight loss
(ASTM D-4060, H-22, Taber Abrader, 1kg, 1000 cycles)	
Water Permeability	Nil – Karsten Test
	(Impermeable)
Resistance to Chloride Ions	No chloride ion
(DOT BD47/94: Appendix B)	penetration after 28 days
Tear Strength	192 N (43 lb)
(MOAT 27 Method 5.4.1)	
Chemical Resistance	Resistant to gas, diesel
	hydraulic fluid, chlorides,
	antifreeze, oils, and battery acids

Go to www.stonhard.ca for more information

Note: Complies with the requirements of ASTM C957.
(Tests: ASTM C501, C794, C836, D412 and D471)

SUBSTRATE REQUIREMENTS

Concrete substrate should be a minimum of 25 MPa, sound and free from laitance, dust, oils, and other contamination. Substrate should be dry to 80% Relative Humidity.

PACKAGING

Stonguard E is packaged in units for easy handling.

Each unit consists of:

Stonguard Primer

(1) 5 gallon pail of MMA primer resin

Broadcast Aggregate

(5) 50 lb bags of quartz broadcast aggregate

(Can be substituted with aluminum oxide or emeraldum for higher abrasion resistance)

Stonguard Flexible Membrane

(2) 6 gallon pails of polyurethane / MMA membrane resin

Stonguard Bodycoat

(1.25) 5 gallon pails of MMA bodycoat resin

Stonguard Sealer

(1) 5 gallon pail of MMA sealer resin

Stonguard UV Sealer

(1) 5 gallon pail of MMA Xpress Sealer resin

Stonguard Pigment Pack

(1) pint can of pigment for the sealer

Filler Aggregate

(0.25) 50 lb bags of filler aggregate

COVERAGE

Approximately 500 sq. ft. / 46.5 sq. m per unit at an approximate thickness of 2 - 3 mm.

STORAGE CONDITIONS

Store all components between 60 to 77°F / 16 to 25°C in a dry area. Keep out of direct sunlight. Avoid excessive heat and do not freeze.

COLOUR

Stonguard E is available in 8 standard colours. Refer to the Stonguard colour sheet. Custom colours are available upon request with extended lead times.

SPEED OF CURE

Foot Traffic 1.5 hours
Vehicle Traffic 2.5 hours
Full Chemical Cure 4.0 hours

CLEANING AND MAINTENANCE

For best performance clean regularly using a single or double rotary scrubber drier in conjunction with a mildly alkaline detergent.

ENVIRONMENTAL CONSIDERATIONS

The finished system is assessed as non-hazardous to health and the environment. The long service life and seamless surface reduce the need for repairs, maintenance and cleaning. Environment and health considerations are controlled during manufacture and application if the products by Stonhard staff and fully trained and experienced contractors.

SUBSTRATE

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 contaminant's may be removed by scrubbing with a heavy-duty industrial detergent (Stonkleen TD9) 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 Stonguard Primer is necessary for all applications of Stonguard E over all substrates. The primer must be fully cured and the concrete must be completely sealed off prior to the application of the membrane.

POT LIFE

After mixing, the Stonguard E components will have a working time of approximately 10 – 15 minutes. The working time varies greatly depending upon temperature and catalyst load.

BANDING

Proper banding of the cracks will ensure that the system is able to bridge the dynamic cracks found in most parking decks and outdoor walkways. Application of the banding is accomplished as follows;

1. Stonguard primer is mixed and applied immediately to the floor. It is applied using a nap roller to a width of 2" (50 mm) wider than the planned application of the membrane layer. Broadcast aggregate is sparsely broadcasted by hand into the wet primer.
2. Stonguard membrane is mixed and applied immediately to the floor. It is applied using a brush to a thickness of approximately 30 mils (0.8 mm). Apply the banding to an approximate overall width of at least twice the slab depth at that location. Allow one hour to cure.

APPLYING

Application of the Stonguard E system is accomplished as follows;

1. Stonguard primer is mixed and applied immediately to the floor. The material is distributed using nap rollers. The broadcast aggregate is sparsely hand broadcasted into the wet primer. Allow one hour to cure.
2. Stonguard membrane is mixed and poured onto the floor. The material is distributed using a 30 mil (0.8 mm) notched squeegee and then rolled using a spike roller. Allow one hour to cure.
3. Stonguard bodycoat is mixed and poured onto the floor. The material is distributed using nap rollers. After 5 minutes maximum, broadcast aggregate is broadcasted until refusal into the wet bodycoat. Allow one hour to cure and remove excess aggregate.
4. Stonguard sealer is mixed and applied directly to the floor. The material is distributed using nap rollers. Ensure an even coat of approximately 8-10 mils is applied to seal the broadcast aggregate to the system. Allow one hour to cure.
5. Stonguard UV sealer is mixed with the filler aggregate and the pigment and applied directly to the floor. It is distributed using nap rollers to an even coat of approximately 8-10 mils. Allow one hour to cure.

Refer to Stonguard E Directions for further details.

RECOMMENDATIONS

- DO NOT attempt to install material if the Stonguard E components are not within 60 to 77°F / 16 to 25°C
- DO NOT use water or steam in the vicinity of the application.
- The use of suitable protective clothing, gloves and safety glasses must be worn during mixing and application of the product. NIOSH/MSHA approved respirators are required.
- Avoid Contact! In case of contact with eyes, rinse immediately with copious amounts of water and seek medical attention. In case of contact with skin, clean immediately with water and soap.
- Product is highly flammable; keep away from heat and all sources of ignition. DO NOT SMOKE! Use only with adequate ventilation.
- Explosion safe ventilation must be used during the application to minimize vapour collection in the installation area and to improve overall air quality for the crew. A fresh air exchange should be set up if possible, in the installation area during application. A safety installation plan is available upon request.
- Avoid storing this material near any other Stonhard products. The MMA based products will react violently if exposed to amine hardeners.

NOTES

- Procedures for cleaning of the flooring system during operations can be found in the Stonhard Flooring Maintenance Guide.
- Material Safety Data Sheets for Stonguard E products are available on line at www.stonhard.ca 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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