

PRODUCT DATA

STONDECK QD4 FLEXIBLE FAST CURING EXTERIOR SYSTEM

DESCRIPTION

StonDeck QD4 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 which is designed to meet requirements of CSA S413-07.

USES / APPLICATIONS

StonDeck QD4 reduces tire noise, improves safety and provides an attractive, clean environment. StonDeck QD4 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 – down to -5°C

MODEL SPECIFICATION

Product: StonDeck QD4 – Exterior Deck Membrane
Finish: Gloss
Thickness: 80-120 mils

SYSTEM COMPONENTS

StonDeck MMA Primer

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

StonDeck Elastomeric MMA Membrane

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

StonDeck MMA Bodycoat

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

StonDeck Aggregate*

A high-wear graded quartz aggregate broadcast to provide an abrasion, slip and wear resistant surface.

*System durability can be upgraded by substituting for emeraldum or aluminum oxide aggregates.

PHYSICAL CHARACTERISTICS

The figures that follow are typical properties achieved in laboratory tests at 20°C (68°F) and at 50% Relative Humidity.

Tensile Strength (BS 2782: Part 3 Method 320A)	MPa 1 day – 5.4 7 day – 7.15 28 day – 7.17
Elongation (BS 2782: Part 3 Method 320A)	Membrane – 350% Bodycoat – 30% UV Sealer – 15.5%
Bond Strength (ASTM D-4541)	> 300 psi (100% concrete failure)
Fire Resistance (BS 476-3)	Designated EXT.FAA
Slip Resistance (ASTM F-1679)	Dry - 1.20 Wet - 0.95
Temperature Resistance	Softens over 70°C (Hardens upon cooling)
Low Temperature Flexibility (MOAT 27: Method 5.4.2)	No Failure of membrane layer at -20°C
Abrasion Resistance (ASTM D-4060, H-22, Taber Abrader, 1kg, 1000 cycles)	0.04 g max. weight loss
Water Permeability	Nil – Karsten Test (Impermeable)
Resistance to Chloride Ions (DOT BD47/94: Appendix B)	No chloride ion penetration after 28 days
Tear Strength (MOAT 27 Method 5.4.1)	192 N (43 lb)
Chemical Resistance	Resistant to gas, diesel hydraulic fluid, chlorides, antifreeze, oils, and battery acids

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

StonDeck UV MMA Sealer

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

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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

StonDeck QD4 is packaged in units for easy handling. Each unit consists of:

StonDeck MMA Primer

(2) 5 gallon pails of MMA primer resin

Broadcast Aggregate

(8) 25 lb bags of quartz broadcast aggregate*

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

StonDeck MMA Membrane

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

StonDeck MMA Bodycoat

(2) 5 gallon pails of MMA bodycoat resin

StonDeck UV MMA Sealer

(1.5) 5 gallon pails of MMA Flex Seal resin

StonDeck Catalyst

(0.75) pail of catalyst for StonDeck resins

StonDeck Pigment Packs

(1.5) StonDeck MMA colour pack

StonDeck MMA Non-Pigmented Filler

(0.2) bag

COVERAGE

Approximately 500 sq. ft. / 46.5 sq. m per unit at an approximate thickness of 80-120 mils.

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

StonDeck QD4 is available in medium grey only. 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 contaminants may be removed by scrubbing with a heavy-duty industrial detergent (Stonklean 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 StonDeck MMA Primer is necessary for all applications of StonDeck QD4 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 StonDeck QD4 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. StonDeck MMA Primer is mixed with catalyst 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. StonDeck MMA Membrane is mixed with catalyst 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 StonDeck QD4 system is accomplished as follows;

1. StonDeck MMA 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. StonDeck MMA Membrane is mixed and poured onto the primed floor. The material is distributed using a 30 mil notched squeegee and then rolled using a spike roller. Allow one hour to cure.
3. StonDeck MMA Primer is mixed and applied immediately to the membrane. Allow 1 hour to cure.

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4. StonDeck MMA Bodycoat is mixed and poured onto the primed membrane. The material is distributed using nap rollers. After 5 minutes maximum, the chosen aggregate is broadcasted until refusal into the wet bodycoat. Allow one hour to cure and remove excess aggregate.
5. StonDeck UV MMA Sealer is mixed and applied directly to the aggregate. 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.

RECOMMENDATIONS

- DO NOT attempt to install material if the StonDeck QD4 components are not within 50 to 77°F / 10 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.

CATALYST DOSE CHART

% by Weight of StonDeck MMA Resin

Product / Temperature	30°C	25°C	20°C	15°C	10°C	0°C
StonDeck MMA Primer	2%	2.5%	3%	3.5%	4%	5%
StonDeck MMA Bodycoat	2%	2.5%	3%	3.5%	4%	5%
StonDeck MMA Membrane	2%	2.5%	3%	3.5%	4%	5%
StonDeck MMA UV Sealer	1%	1.5%	2%	2.5%	3%	4%

Important:

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11/15

Rev. 08/18