StreetBond™ SB150 Concrete Surface Specification Help

Part 1 - General

1.1 Description

A. StreetBond® Advanced Coatings are specifically formulated for application to asphalt pavement but also excel over concrete when a primer is used.

B. StreetBond® have been confirmed by a certified testing facility to possess a balance of performance properties for a durable and colour-fast finish.

C. Primer specified for use with StreetBond® coatings shall be StreetBond® WB Concrete Primer, StreetBond® QS Concrete Primer or approved alternative.

D. When applied in accordance with the StreetBond® application guidelines by a certified applicator.

E. StreetBond® products are manufactured in ISO 9001:2008 / ISO 14001:2004 facilities to ensure quality products produced in legally-responsible and environmentallyconscious manner.

1.2 References

A. ASTM D4541 Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Tester.

B. ASTM D4060 Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.

C. ASTM D2697 Standard Test Method for Volume of Nonvolatile Matter in Clear or Pigmented Coatings.

D. ASTM D522-93A Standard Test Method for Mandrel Bend Test of Attached Organic Coatings.

E. ASTM D1653 Standard Test Method for water vapor transmission through organic film coatings.

F. ASTM G154 QUV Accelerated Weathering Environment. Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials.

G. ASTM D2369 Weight Solids Standard test method for Volatile Content of Coatings.

H. ASTM D1475 Standard Test method for Density of Paint, Varnish, Lacquer, Other related products.

I. ASTM D2240 (2000) Standard Test Method for Rubber property – Durometer hardness.

J. ASTM D5895 Standard Test Method of drying or curing during film formation of organic coatings using mechanical recorders.

K. ASTM D570 Standard Test Method for water absorption of plastics.

Part 2 - Products

StreetBond® coatings have been scientifically formulated to provide the optimal balance of performance properties for a durable, long-lasting colour and textured finish to any pavement surfaces. Some of these key properties include wear and crack resistance, colour retention, adhesion, minimal water absorption and increased friction properties. StreetBond® coatings are environmentally safe and meet EPA requirements for Volatile Organic Compounds (VOC).

A. StreetBond® SB150 is a two-part premium epoxy-modified, acrylic, waterborne coating specifically designed for application on asphalt pavements but also excel over concrete when a primer is used. It has a balance of properties to ensure good adhesion and movement on flexible pavement, while providing good durability. StreetBond® SB150 is durable in both dry and wet environments.

B. StreetBond® Colorant is a highly concentrated, high quality, UV stable pigment blend designed to add colour to StreetBond® SB150 coatings. One unit of Colorant shall be used with one pail of StreetBond® coating material.

C. StreetBond® QS Concrete Primer is a clear, two component epoxy polyamide primer specifically designed to increase the bond for StreetBond® coatings to concrete surfaces. StreetBond® WB Concrete Primer is a clear, single component epoxy primer specifically designed to increase the bond for StreetBond® coatings to concrete surfaces. Both primers protect against destructive salts, oils, solvents and gasoline. Their low viscosity allows penetration into the surface creating a tenacious physical and chemical bond.

2.1.1 Properties of StreetBond Coatings

The following tables outline the test results for physical and performance properties of the StreetBond® coatings as determined by an independent testing laboratory.

Physical Properties of StreetBond® SB150 Coatings

Characteristic	Test Specification	SB150 range
Solids by Volume	ASTM D2697	53.5% - 60.5%
Solids by Weight	ASTM D2369	70% - 76%

Typical Performance Properties of StreetBond® SB150 Coatings

Characteristic	Test Specification	SB150 range
Dry time (To re-coat)	ASTM D2697	53.5% - 60.5%
Taber Wear Abrasion Dry H-10 wheel	ASTM D2369	70% - 76%
Taber Wear Abrasion Wet H-10 wheel	ASTM D4060 modified 7 day cure	1.5 - 4.0 g/1000 cycles
Hydrophobicity Water Absorption (670 hr, 23C)	ASTM D471	8% - 12%
Mandrel Bend	ASTM D522 - 93A	0.5" to 1.00"
VOC	per SDS	<50 g/liter
Adhesion	ASTM D4541	300 – 1400 psi (or cohesive asphalt failure before adhesion failure)
Friction Wet & Dry	ASTM E303 British Pendulum Tester	Dry 55-90 Wet 35-75 Note: Friction is affected by the texture of the substrate.
MEK scrubs 5,000 cycles	ASTM D2486 (modified)	0% exposed substrate

Certificates of Analysis are available upon request for each of these properties.

Part 3 - Execution

3.1 General

StreetBond® coating shall be supplied and applied on concrete surface by a Certified StreetBond® Applicator in accordance with the plans and specifications or as directed by the Owner.

3.2 Pre-Conditions

The condition of the concrete substrate will impact the performance of the StreetBond® coatings. A highly stable concrete pavement free of defects is recommended.

3.2.1 Concrete Surface Preparation

A. Concrete should be wet cured (no curing compound).

B. 28 days after placement of concrete, shotblast with steel shot to International Concrete Repair Institute CSP 4 (assessed using ICRI rubber comparators). The steel shot should be S-280 (0.028 in. (0.71 mm) or S-330, 0.033 in. (0.84 mm).

C. Conduct a moisture test to ensure moisture levels in the slab are acceptable. The preferred test is ASTM F2170 relative humidity test. A relative humidity level of 75% is desired. Using a moisture meter to measure levels deeper in the slab is an alternative test with a target of 7%. ASTM D-4263 "plastic sheet method" is commonly used. The preference is that there is no moisture present under the sheet, either in the form of droplets on the underside of the plastic sheet or a darkening of the concrete surface. StreetBond is breathable and will tolerate a small amount of moisture so some judgment can be applied.

D. Apply StreetBond Primer QS per application instructions, mixed 1 part Part A, one part Part B and diluted with 2 parts Acetone, MEK or Xylol by volume.

E. Allow QS Concrete Primer to fully dry before applying StreetBond coatings. Surface may be slightly tacky, but must not transfer residue to hands or feet. Primer must be coated with StreetBond coating within 48 hours for optimum bonding results.

3.3 Application Of Streetbond® Coatings

3.3.1 Coating Application Guidelines

A. The Applicator shall use the SB Flex Spray System or suitable texture coatings sprayers to apply the StreetBond® coatings.

B. The concrete pavement surface shall be completely dry and thoroughly cleaned prior to application of the coatings.

C. StreetBond® QS Concrete Primer, StreetBond® WB Concrete Primer or approved alternative shall be applied and allowed to cure prior to the first layers of coating. Please consult Technical Data sheets for more details on applications and mixing instructions.

D. The first layer of coating shall be spray applied then broomed to work the coating material into the pavement surface. Subsequent applications shall be sprayed then broomed or rolled. Each application of coating material shall be allowed to dry to the touch before applying the next layer.

E. The Applicator shall apply the StreetBond® coatings only when the air temperature is 10°C and rising and will not drop below 10°C within 24 hours. No precipitation should be expected within 24 hours.

3.4 Coating Coverage & Thickness

Coating coverage and thickness is as outlined in TABLE 4 below. Actual coverage may be affected by the texture of the concrete pavement. There will be less coverage with the first layer and higher coverage with subsequent layers.

	COVERAGE (approx.)		THICKNESS (approx.)			
	NON-TEXTURED		Wet		Dry	
#No. of Layers	sqft/unit*	sqm/unit*	mm	mil	mm	mil
3	200	18.6	0.84	33	0.48	19
4	150	13.9	1.12	44	0.66	26
5	120	11.2	1.40	55	0.81	32
6	100	9.3	1.68	66	0.97	36

1 unit when sprayed as a single layer covers approximately 600sqft (55.7 sqm), with an approximate thickness of 6.3mil (0.16mm) dry. Smoother concrete surfaces will increase your coverage rate per unit.

StreetBond™

LOCAL GOVERNMENT PROCUREMENT APPROVED CONTRACTOR

supporting carbon neutral Turn Emissions into Trees

Street STRONG

Recommended Coating Coverage Rates

Application	Hot Dry Climate	Temperate/Winter Climate
Pedestrian only	3 layers at 600 ft2 (56m2) per 5 gallon (20 Litre) unit for a net coverage of 200 ft2 (18.6m2) per 5 gallon (20 Litre) unit	3 layers at 600 ft2 (56m2) per 5 gallon (20 Litre) unit for a net coverage of 200 ft2 (18.6m2) per 5 gallon (20 Litre) unit
Residential driveway	3 layers at 600 ft2 (56m2) per 5 gallon (20 Litre) unit for a net coverage of 200 ft2 (18.6m2) per 5 gallon (20 Litre) unit	3 layers at 600 ft2 (56m2) per 5 gallon (20 Litre) unit for a net coverage of 200 ft2 (18.6m2) per 5 gallon (20 Litre) unit
Vehicular traffic		
Up to 500 cars per day per lane	4 layers at 600 ft2 (56m2) per 5 gallon (20 Litre) unit for a net coverage of 150 ft2 (13.9m2) per 5 gallon (20 Litre) unit	4 layers at 600 ft2 (56m2) per 5 gallon (20 Litre) unit for a net coverage of 150 ft2 (13.9m2) per 5 gallon (20 Litre) unit
500 to 1000 cars per day per lane	4 layers at 600 ft2 (56m2) per 5 gallon (20 Litre) unit for a net coverage of 150 ft2 (13.9m2) per 5 gallon (20 Litre) unit	4 layers at 600 ft2 (56m2) per 5 gallon (20 Litre) unit for a net coverage of 150 ft2 (13.9m2) per 5 gallon (20 Litre) unit, plus one additional layer in the wheel paths
1000 to 2000 cars per day per lane	4 layers at 600 ft2 (56m2) per 5 gallon (20 Litre) unit for a net coverage of 150 ft2 (13.9m2) per 5 gallon (20 Litre) unit, plus one additional layer in the wheel paths	4 layers at 600 ft2 (56m2) per 5 gallon (20 Litre) unit for a net coverage of 150 ft2 (13.9m2) per 5 gallon (20 Litre) unit, plus two additional layers in the wheel paths
2000 to 3000 cars per day per lane	4 passes at 600 ft2 (56m2) per 5 gallon (20 Litre) unit for a net coverage of 150 ft2 (13.9m2) per 5 gallon (20 Litre) unit, plus two additional layers in the wheel paths	**No warranty is provided for traffic levels above 2000 cars per day per lane**
	No warranty is provided for traffic levels above 3000 cars per day per lane	

1. Additional layers of StreetBond® SB150 coatings may be used to provide additional build thickness in high wear areas such as vehicle wheel paths and turning areas.

2. A maintenance program may be required for applications exposed to:

- abrasive materials (such as salt and sand)
- abrasive equipment (such as snow removal equipment)
- Studded winter tires

3.6 Opening To Traffic

Minimally, StreetBond® SB150 coating must be 100% dry and sufficient curing time must be allowed before traffic is permitted on the surface.

If StreetBond® coatings are applied when moisture cannot evaporate, then the coating will not dry. The drying and curing of StreetBond® coatings have a direct impact on performance.