



StreetBondSR - COATING APPLICATION TO NON-TEXTURED ASPHALT PAVEMENT



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PART 1 – GENERAL

1.1 DESCRIPTION

- A. **StreetBondSR asphalt pavement coating** is a highly specialized, proprietary coating specifically designed for application to both textured and non-textured asphalt pavement substrates. Typical applications include paved entranceways, parking lots, residential streets and driveways, sidewalks, plazas, medians, and cross-walks.
- B. **StreetBondSR coating** is formulated to deliver a balance of performance properties that takes into consideration the inherent characteristics of asphalt pavement. Some of these key performance properties include wear and crack resistance, color retention, adhesion, minimal water absorption and increased friction properties. Please refer to section 2 (Products) below for ASTM physical characteristics and performance properties.
- C. A variety of colors are available. Please refer to www.streetprint.com to view these. Custom colors are available upon request.
- D. Certain colors of **StreetBondSR** have an SRI greater than 29 and therefore qualify for the LEED program under Section SS Credit 7.1 Heat Island Effect: Non-Roof.
- E. **StreetBondSR** coatings are only available from Integrated Paving Concepts, Inc. creators of **StreetPrint®** (Tel. 800-688-5652).
- F. Only **Accredited StreetPrint® applicators** are qualified to bid for and perform this work. Please refer to **Section 1.3 DEFINITIONS**.

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Revision 2

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1.2 REFERENCES

- A. ASTM D-4541** Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Tester.
- B. ASTM D-4060** Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.
- C. ASTM D-2697** 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 or organic film coatings.
- F. ASTM G-155** Standard Practice for Operating Xenon Arc Apparatus for UV Exposure of Nonmetallic Materials.
- G. ASTM D 2369** Weight Solids Standard test method for Volatile Content of Coatings.
- H. ASTM D 1475** Standard Test method for Density of Paint, Varnish, Lacquer, Other related products.
- I. ASTM D-2240 (2000)** Standard Test Method for Rubber property – Durometer hardness.
- J. ASTM D-5895** Standard Test Method of drying or curing during film formation of organic coatings using mechanical recorders.
- K. ASTM D-570** Standard Test Method for water absorption of plastics.
- L. ASTM E303** Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester.

1.3 DEFINITIONS

- A. “Accredited StreetPrint® Applicator”** is a licensed **StreetPrint®** applicator who has a valid license agreement as offered by Integrated Paving Concepts, Inc. (Tel. 800-688-5652). **StreetPrint®** applicators are reviewed on an annual basis. **Accredited StreetPrint® Applicators** have been qualified by Integrated Paving Concepts, Inc to perform the Work.
- B. “Owner”** means the Owner and refers to the representative person who has decision making authority for the Work.
- C. “Textured asphalt pavement”** is asphalt pavement that has been subjected to imprinting or stamping in a specific pattern.

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- D. “Non-textured asphalt pavement”** is asphalt pavement that is unstamped and is sometimes referred to as “flatwork”.
- E. The “Work”** is the asphalt pavement texturing work contemplated in this bid submission and specification.
- F. “Scuffing”** is a “tear” of the asphalt pavement caused by an external force. Stationary vehicle tires turning on the pavement surface is a typical cause.
- G. “Layer”** is a spray pass, using the RSG spray gun that is allowed to dry before the next pass is applied.

1.4 SUBMITTALS TO BE MADE AVAILABLE TO THE OWNER

A copy of the current license agreement, available from the **Accredited StreetPrint® Applicator**, is a required with submittal.

PART 2 – PRODUCTS

2.1 MATERIALS – StreetBondSR COATINGS

StreetBondSR coating has been scientifically formulated to provide the optimal balance of performance properties for a durable, long lasting color and texture to asphalt pavement surfaces.

- A. StreetBond150 coating** is an epoxy modified, acrylic, waterborne coating specifically designed for application on asphalt pavements. It is environmentally safe and meets EPA requirements for Volatile Organic Compounds (VOC).
- B. StreetBondSR Colorant** is a highly concentrated, high quality, UV stable pigment blend, and contains additives that enhance the solar reflective characteristics and is designed to add color to **StreetBondSR**. One pint of colorant shall be used with one pail of **StreetBondSR coating**.

2.2 PROPERTIES OF StreetBondSR COATING

The following tables outline the physical and performance properties of **StreetBondSR coating**. Each of these properties is backed up by a Certificate of Analysis produced by an independent qualified testing facility. Integrated Paving Concepts, Inc. (1-800-688-5652) or the **Accredited StreetPrint® Applicator** can provide a copy upon request.

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TABLE 1: TYPICAL PHYSICAL PROPERTIES OF StreetBondSR COATING

Characteristic	Test Specification	StreetbondSR
Solids by Volume	ASTM D-2697	55%
Solids by Weight	ASTM D-2369	68.9%
Density	ASTM D-1475	13.34 lbs/gal (1.599 kg/l)

TABLE 2: TYPICAL PERFORMANCE PROPERTIES OF StreetBondSR COATING

Characteristic	Test Specification	StreetBondSR	
Dry time (To re-coat)	ASTM D-5895 23°C; 37% RH	35 min	
Taber Wear Abrasion Dry H-10 wheel	ASTM D-4060 7 days cure	0.98 g/1000 cycles	
Taber Wear Abrasion Wet H-10 wheel	ASTM D-4060 7 days cure	3.4 g/1000 cycles	
QUV E Accel. Weathering environment.	ASTM G-155 2,000 hours (CIE units)	$\Delta E = 0.49$ (brick color)	
Hydrophobicity Water absorption	ASTM D-570	8.3% (9 days immersion)	
Shore hardness	ASTM D-2240	63 Type D	
Mandrel Bend	ASTM D522-93A	1/4" @ 21°C	
Permeance	ASTM D1653	3.45 g/m ² /hr (52 mils)	
VOC	EPA-24 ASTM D3960-05 VOC's	18.7 g/l	
Adhesion to Asphalt	ASTM D-4541	Substrate Failure	
Friction Wet	ASTM E-303 British Pendulum Tester	WP* coated	64
		WP* uncoated	57
		AC** coated	73
		AC** uncoated	60

*WP – test conducted on asphalt in wheel path

**AC – test conducted on asphalt adjacent to curb.

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2.3 EQUIPMENT

The following equipment is proprietary and is an integral part of the proper application of **StreetBondSR coating**. This equipment is available only from Integrated Paving Concepts Inc. and can only be used by **Accredited StreetPrint® applicators** that have been properly trained to use this equipment.

- A.** The **Rapid Sprayer II** is a proprietary coating sprayer supplied by Integrated Paving Concepts Inc. and is capable of applying the coating material to the asphalt pavement surface in a thin, controlled film which will optimize the drying and curing time of the coating.
- B.** The **StreetBond Coatings mixer** is a motorized mixing device designed exclusively for use with **StreetBondSR coatings**.

PART 3 - EXECUTION

3.1 GENERAL

StreetBondSR coating shall be supplied and applied by an **Accredited StreetPrint® Applicator** in accordance with the plans and specifications or as directed by the Owner. Do not begin installation without confirmation of Applicator certification.

3.2 PRE-CONDITIONS

A highly stable asphalt pavement free of defects is a pre-requisite for the installation of **StreetBondSR coating**. **Do not install over poor quality asphalt pavement.**

3.2.1 Pre-requisites for new asphalt pavement

A durable and stable asphalt pavement mix design installed according to best practices over a properly prepared and stable substrate is a pre-requisite for all long-lasting asphalt pavement surfaces. The application of **StreetBondSR coating** does not change this requirement.

Generally, the asphalt pavement mix design for roadways as prescribed by the local jurisdiction will be sufficient for the application of StreetBond150 coating.

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3.2.2 Pre-requisites for existing asphalt pavement

Depending upon the condition and age, existing asphalt pavement may or may not be suitable for the successful application of **StreetBondSR coating**. Minimally, the asphalt pavement must not have any defects including cracks, ruts or potholes nor demonstrate any flushing, raveling or like deficiencies. The **Accredited StreetPrint® Applicator** can advise the Owner on the suitability of the existing asphalt pavement.

3.2.3 Pavement Marking Removal: recommended guidelines

Pavement markings may be removed by sandblasting, water-blasting, grinding, or other approved mechanical methods. The removal methods should, to the fullest extent possible, cause no significant damage to the pavement surface. The Owner shall determine if the removal of the markings is satisfactory for the application of **StreetBondSR** coatings. Work shall not proceed until this approval is granted.

3.3 LAYOUT

If a pattern is called for, layout shall be as per the drawings and specifications and in accordance to the methods prescribed by the **Accredited StreetPrint® Applicator** in conjunction with the Owner.

3.4 APPLICATION OF STREETBOND COATINGS

3.4.1 Application Guidelines.

- A.** The **Accredited StreetPrint® Applicator** shall use the **Rapid Sprayer II** to apply the **StreetBondSR coating**.
- B.** The asphalt pavement surface shall be completely dry and free from all foreign matter, including but not limited to dirt, dust, de-icing materials, and chemical residue.
- C.** The first layer of coating shall be spray applied then broomed to work the 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.
- D.** The Applicator shall apply **StreetBondSR coating** only when the air temperature is at least 50°F / 10°C and rising, and will not drop below 50°F / 10°C within 24 hours of application of the coating material.

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- E. There should be no precipitation expected within 24 hours after the final layer of **StreetBondSR coating** is dry to touch.
- F. The required number of layers of coating is dependent upon the intended use as outlined in **TABLE 3** below.

TABLE 3: REQUIRED LAYERS OF StreetBondSR 150E

	<u>Stamped Asphalt surface</u> <u>Scuff** concern</u>	<u>Stamped Asphalt surface</u> <u>No Scuff** concern</u>	<u>Non Stamped / Textured***</u> <u>Asphalt surface</u>
No Vehicle Traffic <ul style="list-style-type: none"> ▪ Pedestrian ▪ Cycle paths ▪ Sidewalks ▪ Plazas 	N/A	3 layers StreetBond150	
Very Low Vehicle Traffic <ul style="list-style-type: none"> ▪ Residential 	1 layer StreetBond150 over 2 layers StreetBond CemBase	3 layers StreetBond150	
Low / Medium Vehicle Traffic <ul style="list-style-type: none"> ▪ Parking lots ▪ Low traffic crosswalks ▪ Low traffic entries ▪ Level Medians ▪ Cycle paths in traffic 	2 layers StreetBond150 over 2 layers StreetBond CemBase	4 layers StreetBond150	

Notes:

1. Additional layers of **StreetBondSR coating** may be used to provide additional build thickness in high wear areas such as wheel paths and vehicle turning areas.
2. A maintenance program may be required for applications exposed to:
 - scuffing
 - abrasive materials (such as salt and sand)
 - abrasive equipment (such as snow removal equipment)

3.4.2 Coating Coverage and Thickness for Non-Textured Surfaces.

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

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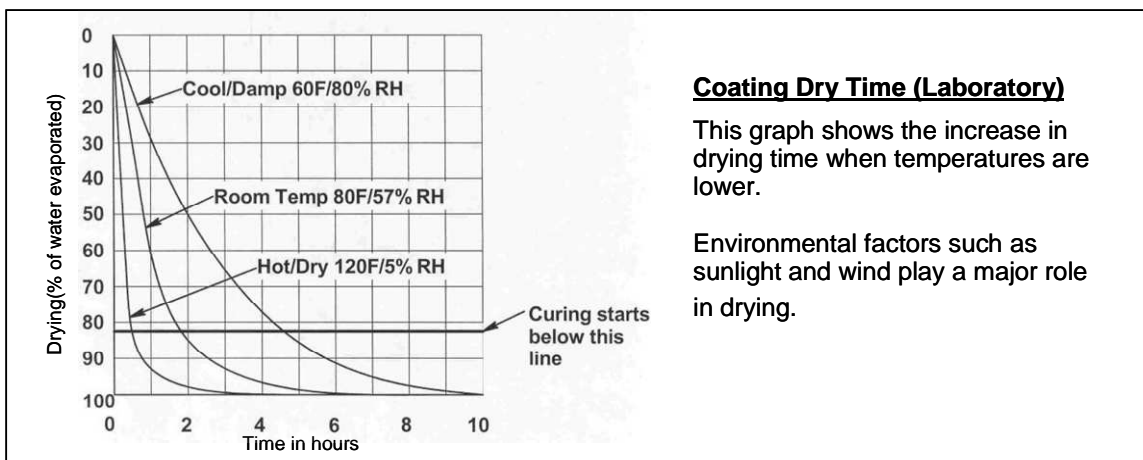
TABLE 4 COATING COVERAGE: NON-TEXTURED SURFACE

# OF LAYERS	COVERAGE (approx.) SF/pail	THICKNESS (approx.)			
		WET		DRY	
		mm	mils	mm	mils
3	225	0.65	25.7	0.36	14.1
4	175	0.87	34.3	0.48	18.9

3.5 OPENING TO TRAFFIC

Minimally, the **StreetBondSR** coating must be 100% dry before traffic is permitted. **TABLE 5** is a guide.

TABLE 5: COATING DRY TIMES (TYPICAL)



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.

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PART 4 – MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

The measured area is the actual area of pavement that has received the **StreetBondSR coating**, measured in place. No deduction will be made for the area(s) occupied by manholes, inlets, drainage structures, bollards or by any public utility appurtenances within the area.

4.2 PAYMENT

Payment will be full compensation for all work completed as per conditions set out in the contract. For unit price contracts, the payment shall be calculated using the measured area as determined above.