

Illinois Department of Transportation
Bureau of Materials
QUALIFIED PRODUCT LIST OF HIGH FRICTION SURFACE TREATMENT
April 17, 2020
This list supersedes the **March 20, 2020** list.
Special Provision for High Friction Surface Treatment (BMPR/BSE) (Effective: January 1, 2016)

Material Code No. 21639

**The materials on this list can be used on any
contract containing the
Special Provision for High Friction Surface Treatment (BMPR/BSE).**

For information regarding new product submittal, click the "New Submittal" bookmark to the left.

Part A – Epoxy Resin Binder*

*An epoxy resin binder from Part A shall be used with a calcined bauxite aggregate from Part B.

Cornerstone Construction Material, LLC
1150 SE Hamblen Road
Lee's Summit, MO 64063
816-380-1082
Attn: Mr. Scott Brain
www.ccmaterial.com
" **FASTRAC CE330 EPOXY BINDER** "
DESC1: CC-C330

Olin Poly-Carb
2301 North Brazosport Boulevard, B1603
Freeport, TX 77541
Phone: 979-238-1674
Attn: Ms. Solmaz Pirouz
www.poly-carb.com
" **MARK 154** "
DESC1: PC-MK154

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Part B – Calcined Bauxite Aggregate*

* An epoxy resin binder from Part A shall be used with a calcined bauxite aggregate from Part B.

FX Minerals, Inc.
257 Kennedy Park Marina Road
Newell, WV 26050
Attn: Mr. John Koprevich
Phone: 814-360-9040

Great Lakes Minerals, LLC
1200 Port Road
Wurtland, KY 41144
Attn: Ms. Georgia Eusner
Phone: 606-833-8383

Mineral Manufacturing Corp.
10627 Hartslog Valley Road
Huntingdon, PA 16652
Attn: Mr. Jacob Falbo
Phone: 724-875-2512

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List of conditionally approved applicators

ACC West Coast, Inc.
2990 Bay Vista Court
Benicia, California 94510
Phone: 707-742-6456
707-310-0225
Attn: Mr. Cliff Barber
P/S Number: 6905-01

DBI
100 North Conahan Drive
Hazleton, Pennsylvania 18201
Phone: 804-213-0335 (o)
804-539-5582 (c)
Attn: Mr. Richard Baker
P/S Number: 6906-01

Venture Construction
42 Locke Road
Concord, New Hampshire 03301
Phone: 314-420-8803
Attn: Mr. Eric Toman
P/S Number: 6907-01

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**Part A – Epoxy Resin Binder
Submittal for Review and Approval**

A. Scope

The following guidelines are provided to clarify the submittal requirements and expedite the review process for approving epoxy resin binder according to the current Special Provision for High Friction Surface Treatment (BMPR/BSE).

B. Procedure

When submitting an epoxy resin binder to the Department, the following shall be included.

- Manufacturer Name;
- The specific product brand name;
- Epoxy resin binder sample – 0.125 gal (0.5 L) sample of each component;
- Independent laboratory test results showing the product meets Department specifications:

Property	Test Method	Requirements
Viscosity, Poises	ASTM D 2556	7 - 30
Ultimate Tensile Strength, psi	AASHTO M 235	2,500 - 5,000
Compressive Strength, psi	ASTM C 579	1,000 min. (3 hours) 5,000 min. (7 days)
Gel Time, minutes	AASHTO M 235	10 min.
Water Absorption, %	AASHTO M 235	1 max.
Durometer Hardness (Shore D)	ASTM D 2240	60 - 80
Cure Rate (Dry through time), hours	ASTM D 1640, 55 mil wet thickness @ 75 °F	3 max.
Elongation at Break Point, %	AASHTO M 235	30 - 70
Mixing Ratio	Provide manufacturer's recommendations a minimum of 60 days prior to construction.	Per Manufacturer
Adhesion Strength, psi @ 24 hrs	ASTM D 7234	250 min. or 100% substrate failure
Infrared Spectrum	AASHTO T 237	Note 1

- Safety Data Sheet;
- Technical Data Sheet;
- A signed letter stating the subject material will not be changed without written notification to the Department;
- Contact person's name, title, address, email address, and phone number; and
- Acknowledgement by Company ([Form BMPR 101](#)). If your company does not already have a product included on an IDOT QPL, please submit a signed copy of the Acknowledgement by Company form with your product submittal.

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Part A – Epoxy Resin Binder
Submittal for Review and Approval, continued

The sample and submittal information shall be sent to:

Melinda Winkelman
Illinois Department of Transportation
Bureau of Materials
126 East Ash Street
Springfield, IL 62704-4766

The manufacturer/producer/supplier will be notified upon completion of the Department's review. For questions regarding the review and approval process, contact Melinda Winkelman at 217-782-0117.

C. Recertification

Annual recertification of epoxy resin binder is required. During the last quarter of the calendar year, a recertification letter will be sent to the manufacturer. The recertification paperwork is due January of the following year. For example, the recertification letter is mailed late November 2020 and due by mid-January 2021. New independent laboratory test results will be due every even number calendar year. For example, new test reports will be due in January 2022.

In addition to the annual recertification, any changes in formulation of the epoxy resin binder outside the manufacturer's original parameters will necessitate new submittal of independent laboratory test results.

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**Part B – Calcined Bauxite Aggregate
Submittal for Review and Approval**

A. Scope

The following guidelines are provided to clarify the submittal requirements and expedite the review process for approving calcined bauxite aggregate according to the current Special Provision for High Friction Surface Treatment (BMPR/BSE).

B. Procedure

When submitting a calcined bauxite aggregate to the Department, the following shall be included.

- Producer/Supplier Name;
- The specific material name;
- Independent laboratory test results showing the product meets Department specifications;

Property	Test Method	Requirements
Gradation <u>Sieve Designation</u> No. 4 (4.75 mm) No. 6 (3.35 mm) No. 16 (1.18 mm)	AASHTO T 27	<u>Percent Passing (min.)</u> 100 95.0-100.0 0.0-5.0
Moisture Content, %	AASHTO T 255	0.2 max.
Aluminum Oxide, %	ASTM C 25	87 min.
LA Abrasion Test, %	AASHTO T 96, (D grading)	20 max.

- Calcined bauxite aggregate sample – two 40-lb (18-kg) bags;
- Safety Data Sheet;
- Technical Data Sheet;
- A signed letter stating the source of origin will not be changed without written notification to the Department;
- Contact person's name, title, address, email address, and phone number; and
- Acknowledgement by Company ([Form BMPR 101](#)). If your company does not already have a product included on an IDOT QPL, please submit a signed copy of the Acknowledgement by Company form with your product submittal.

The sample and submittal information shall be sent to:

Melinda Winkelman
Illinois Department of Transportation
Bureau of Materials
126 East Ash Street
Springfield, IL 62704-4766

The manufacturer/producer/supplier will be notified upon completion of the Department's review. For questions regarding the review and approval process, contact Melinda Winkelman at 217-782-0117.

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Part B – Calcined Bauxite Aggregate
Submittal for Review and Approval, continued

C. Recertification

Annual recertification of calcined bauxite aggregates is required. During the last quarter of the calendar year, a recertification letter will be sent to the producer/supplier. The recertification paperwork is due January of the following year. For example, the recertification letter is mailed late November 2020 and due by mid-January 2021. New independent laboratory test results will be due every even number calendar year. For example, new test reports will be due in January 2022.

In addition to the annual recertification, any changes in the source of origin will necessitate new submittal of independent laboratory test results.

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**Conditionally Approved Applicators for HFST
Submittal for Review and Conditional Approval**

A. Scope

The following guidelines are provided to clarify the submittal requirements and expedite the review process for a contractor to obtain conditional approval to apply high friction surface treatment (HFST) according to the current Special Provision for High Friction Surface Treatment (BMPR/BSE).

B. Procedure

When applying for conditional approval, a contractor shall submit the following:

- Contractor's legal operating company name,
- Contact person's name, title, address, email address, and phone number,
- A signed and dated letter stating the equipment is either owned or leased. If the equipment is leased, provide the name and contact information of the equipment owner. The letter shall also include a statement indicating the equipment lease agreement will not be changed without notification to the Department.
- A signed and dated letter stating the equipment complies with the current Special Provision for High Friction Surface Treatment (BMPR/BSE):

“Truck Mounted Application Machine. The HFST application machine shall be an approved self-propelled, fully automated truck mounted application machine capable of continuously applying resin and aggregate at a uniform thickness and rate, respectively, in varying widths of up to 12 ft (3.6 m).

The application machine shall be capable of continuously and thoroughly mixing epoxy resin binder components to the ratio recommended by the epoxy resin manufacturer. The epoxy resin shall be uniformly applied to the pavement surface at a minimum coverage rate of 10 gal/min (38 L/min) with a minimum uniform application thickness of 50 mils (1.25 mm).

The aggregate shall be applied by the same application machine which includes an aggregate drop spreader capable of mechanically continuously spreading bauxite aggregate at a minimum rate of 11 lb/sq yd (6 kg/sq m), with a minimum height from spreader to pavement surface of 12 in. (300 mm) to achieve proper spread of aggregate. The use of chip spreaders, vehicle tires, rollers, vibratory compactors or devices that throw loose aggregate onto any part of the live roadway lanes will not be allowed to apply the aggregate onto the wet uncured resin.

The HFST application machine shall be capable of the uniform application of the binder and aggregate at a minimum continuous application rate of 2,300 sq yd/hour (1,925 sq m/hour).”

- A color photograph of the application equipment, and
- Documentation showing HFST or equivalent experience on at least three projects with similar state highway agencies.

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**Conditionally Approved Applicators for HFST
Submittal for Review and Approval, continued**

The submittal information shall be sent to:

Melinda Winkelman
Illinois Department of Transportation
Bureau of Materials
126 East Ash Street
Springfield, IL 62704-4766

The contractor will be notified upon completion of the Department's review. For questions regarding the review process, contact Melinda Winkelman at 217-782-0117.

C. Recertification

Annual recertification of conditionally approved applicators is required. During the last quarter of the calendar year, a recertification letter will be sent to the contractor. The recertification paperwork is due January of the following year. For example, the recertification letter is mailed late November 2020 and due by mid-January 2021.

In addition to the annual recertification, any changes in equipment will necessitate a new submittal.