MONOKO, LLC

1037 Peninsula Avenue
Tarpon Springs, FL 34689-2125
E-mail Address: MonokoLLC@aol.com
(727) 940-3244
(727) 279-8795 Fax

Submittal No.: 05, Paint System & Reducers (QPL)

Date: April 17, 2015

Vermont Department of Transportation
Northeast Regional Construction Office
Attn: Mr. Ron Gray
347 Emerson Falls Road, Suite 5
St. Johnsbury, VT 05819
(Phone) (802) 751-3295; (Cell) (802) 793-3161
(Fax) (802) 751-3297; Ron.Gray@state.vt.us

Description: Proposal/Contract Number**:** Bradford-Newbury IM BPNT (14)
Letting Date: 10/10/14; Award Date: 11/03/14
Project Description: Bridge Painting of Five Bridges
In the Towns of Bradford & Newbury, VT
Contract Amount: $4,327,785.00; Completion Date: 08/26/16

Contractor: **MONOKO, LLC**

Reviewed & Approved By: *Keri Monokandilos*
Keri Monokandilos, Manager

Date: **04/17/2015**

Engineer: Peter Hodgson, Resident Engineer
347 Emerson Falls Road, Suite 5
St. Johnsbury, VT 05819
802-748-2447; 802-793-1878 cell
pete.hodgson@state.vt.us
Mark.Sargent@state.vt.us

Revision:

MONOKO, LLC.

1037 Peninsula Avenue
Tarpon Springs, FL 34689-2125
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April 13, 2015

State of Vermont
Northeast Regional Construction Office
347 Emerson Falls Road, Suite 5
St. Johnsbury, VT 05819
(802) 748-2447; (802) 793-1878 cell
Pete.Hodgson@state.vt.us

Attn: Mr. Pete Hodgson, Resident Engineer
Re: Bradford-Newbury IM BPNT(14)
Bridge Painting of Ten Bridges @ 5 Locations
Subject: Paint System & Reducers (QPL)

Dear Mr. Hodgson,

Monoko, LLC has chosen Sherwin Williams products for the coating application for the above referenced project. According to Section 560-2.1, VT DOT QPL list is attached that indicates the following products are approved:

Primer: Zinc Clad III HS, Organic Zinc Rich Primer, (B69A100 Series)
Intermediate: Macropoxy 646, Fast Cure Epoxy, (B58-600Series)
Finish (Top) Coat: Acrolon 218 HS, Acrylic Polyurethane, (B65-600 Series)
Applicable reducers: R7K15 & MEK

Thank you for your review of the same.
Sincerely,

Keri Monokandilos

Keri Monokandilos
Manager
Monoko, LLC

Enc.

Mtg/Effective Date: /5/96, 9/4/96, 1/8/97, 7/22/97, 5/20/98, 3/3/99, 9/22/99, 3/30/00, 11/8/00, 3/28/01, 5/14/01, 11/20/01, 11/29/01, 4/24/02, 2/24/03, 4/17/03, 3/16/04, 2/15/05, 4/19/05 R1, 11/17/05 R1, 10/5/06 R1, 06/21/07, 10/16/08, 4/7/09 R1, 10/7/09 R1, 11/09/10, 01/25/11, 4/5/11 R2, 12/14/11, 4/3/12, 4/3/12 R1, 10/02/12, 10/02/12 R1, 4/16/13, 11/15/13 R1, 04/14/14 R1, 10/07/14

NEPCOAT Qualified Products List B

for Protective Coatings for
NEW and 100% BARE EXISTING Steel for Bridges

NTPEP System No.	Coats	3-COAT SYSTEM TESTED AND ACCEPTED	Slip Coef Class	Manuf'r Coating DFT (min/max) mil	micron	VOC Tested g/L	QPL Accepted Dates
NEPCOAT LIST **B** - ORGANIC Zinc Rich Primer / Epoxy or Urethane Intermediate / Aliphatic Urethane Finish							
SSC(11)-02*		INTERNATIONAL PAINT INC					from
	Primer	Interzinc® 315B Epoxy Zinc Rich	B [1]	2-6	50-150	304	10/02/12
	Interm	Intergard 475HS Epoxy		4-8	100-200	187	until mtg.
	Topcoat	Interthane® 870 UHS		3-5	75-125	242 es	fall 2016
	[1] Footnote	4 mils max DFT, 48 hours min cure, zero thinner					
SSC(04)-03		SHERWIN WILLIAMS COMPANY					from
SSC(11)-03	Primer	Zinc Clad® III HS Organic Zinc Rich Epoxy Primer	A [1]	3-5	75-125	329	10/02/12
	Interm	Macropoxy® 646 Fast Cure Epoxy		3-10	75-250	238	until mtg.
	Topcoat	Acrolon™ 218 HS Acrylic Polyurethane		3-6	75-150	263	fall 2019
	[1] Footnote	3 mils max DFT, 7 days min cure, zero thinner					
SSC(12)-04*		CARBOLINE COMPANY					from
	Primer	Carbozinc® 859 Organic Zinc Rich Epoxy Primer	B [1]	3-10	75-250	322	04/14/14
	Interm	Carboguard® 893 Epoxy Intermediate		3-6	75-150	207	until mtg.
	Topcoat	Carbothane 133 VOC Aliphatic Polyurethane		3-5	76-127	185 es	spring 2018
	[1] Footnote	6 mils max DFT, 4 days min cure, 10% vol max thin					

[1] Footnote	Information from the Slip-Coefficient and Creep Resistance Test Certificate is given for use w/ primed bolted connections.
NOTE 1	NEPCOAT- NORTHEAST PROTECTIVE COATINGS COMMITTEE of CT, DE, ME, MA, NH, NJ, NY, PA, RI, VT
2	NTPEP (Nat'l Transport'n Product Evaluat'n Program). See Structural Steel Coating test data at http://data.ntpep.org.
3	Accelerated lab and field testing of coating systems is performed according to AASHTO NTPEP R-31 criteria.
4	Systems are accepted for use on NEW and 100% BARE EXISTING steel for bridges cleaned by abrasive blasting.
5	SSC(yr)-xx systems comply with AASHTO R-31 Evaluation Practice & NEPCOAT Acceptance Criteria.
6	*VOC values are lab test results using unthinned samples. NEPCOAT max VOC limit is 420 g/L (3.5 lb/gal). Individual* state requirements for VOC limits may differ.
7	Recommended DFT values are listed by manufacturer (see Product Data Sheets.)
8	Any change in coating formulation from that tested will result in removal of the system from the QPL.
9	The full QPL term is seven years starting from the date of acceptance until the next biannual NEPCOAT meeting.
*	Acceptance is CONDITIONAL pending submission within four years of successful 2-year field history. A startup list of five bridges painted with the paint system must be submitted within two years. See Acceptance Criteria.
	Note that R-31-09 Section 12.1, Requalification Testing, has been discontinued.
es	VOC value adjusted for exempt solvents

Mtg/Effective Date: /5/96, 9/4/96, 1/8/97, 7/22/97, 5/20/98, 3/3/99, 9/22/99, 3/30/00, 11/8/00, 3/28/01, 5/14/01, 11/20/01, 11/29/01, 4/24/02, 2/24/03, 4/17/03, 3/16/04, 2/15/05, 4/19/05 R1, 11/17/05 R1, 10/5/06 R1, 06/21/07, 10/16/08, 4/7/09 R1, 10/7/09 R1, 11/09/10, 01/25/11, 4/5/11 R2, 12/14/11, 4/3/12, 4/3/12 R1, 10/02/12, 10/02/12 R1, 4/16/13, 11/15/13 R1, 04/14/14 R1, 10/07/14

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*	Acceptance is CONDITIONAL pending submission within four years of successful 2-year field history. A startup list of five bridges painted with the paint system must be submitted within two years. See Acceptance Criteria. Note that R-31-09 Section 12.1, Requalification Testing, has been discontinued.
es	VOC value adjusted for exempt solvents

58. PAINT SYSTEM. The paint system listed below shall be applied as specified.

The paint manufacturer's relative humidity, dew point, and material, surface, and ambient temperature restrictions shall be provided with the submittals and shall be strictly followed. Written recommendations from the paint manufacturer for the length of time each coat must be protected from cold or inclement weather (e.g. exposure to rain) during the drying period shall be included in the submittals. Upon acceptance by the Engineer, these times shall be used to govern the duration that protection must be maintained during drying.

The manufacturer's technical representative shall be on the project for the first 48 hours of paint application and after that time be available to be back on project with 24 hour notice.

Unless indicated otherwise in the Contract, the Contractor shall apply an additional stripe coat to edges, rivets, bolts, crevices, welds, and similar surface irregularities. The stripe coat shall be applied by brush such that the coating is thoroughly worked into or on the irregular surfaces, and shall extend onto the surrounding steel a minimum of 25 mm (1 inch) in all directions. The purpose of the stripe coat is to build additional thickness and to assure complete coverage of these areas. The stripe coat is in addition to the requirement for penetrating sealer.

The stripe coat shall not be applied as part of the application of the full coat. The stripe coat shall be applied and dried separately according to the manufacturer's recommended drying times. Also, the stripe coat shall be color contrasting to the full coat.

In the case of the prime coat, the full coat shall be applied first to protect the steel, followed by the stripe coat after the full coat has dried. In the case of the intermediate or top coat, the stripe coat shall be applied first and allowed to dry before applying the intermediate or top coat.

Amine blush is a residue that can form on newly applied epoxy coating films under certain conditions. Amine blush often appears as a yellowish milky and/or a blotchy residue on the coating surface and is a deterrent to the adhesion of subsequently applied coating layers. If amine blush is detected, the Contractor shall provide the Engineer with written procedures from the coating manufacturer for complete removal prior to the application of additional coating layers.

(a) System 1 - OZ/E/U - for Bare Steel. System 1 shall consist of the application of a full coat of organic (epoxy) zinc-rich primer, a full intermediate coat of epoxy, and a full finish coat of aliphatic urethane. Stripe coats of the prime and intermediate coats shall be applied. The film thicknesses of the full coats shall be as follows, as measured in accordance with SSPC-PA2:

(1) One full coat of organic zinc-rich primer between 90 and 125 microns (3.5 and 5.0 mils) dry film thickness. The prime coat shall be tinted to a color that contrasts with the steel surface.

2015 QUALIFIED PRODUCTS LIST

Edition 2015-1 (March 13, 2015)
Prepared by the:
Vermont Agency of Transportation
Research and Development Section

The following lists have been extracted from www.nepcoat.org. For the most up to date lists and testing parameters, please refer to lists A, B, and M on this website. The lists are organized as follows:

List A: Three Coat Systems for New or Bare Steel; Inorganic Zinc Rich Primer / Epoxy or Urethane Intermediate / Aliphatic Urethane Finish
List B: Three Coat Systems for New or Bare Steel; Organic Zinc Rich Primer / Epoxy or Urethane Intermediate / Aliphatic Urethane Finish
List M: Maintenance Overcoating of Previously Painted Existing Steel Bridges

Both lists A and B have been created for new steel or steel cleaned to white/near white quality. Please see section 513 of the "2011 Standard Specifications for Construction" for details. Systems from List A and B may be used for shop applied work, with List A systems generally providing greater performance. For field application, List B is preferred as organic zinc paints have much more forgiving application properties; however List A can also be used so long as there has been sufficient surface preparation and an increased level of care upon application is taken. List M systems are used in field situations where a high level of cleaning cannot be obtained.

Upon the use of any product herein, the Resident Engineer is required to:

1. Verify by inspection that the material being incorporated in the project is listed on the current version of the APL. If it is not, the material or product shall be rejected.

2. Complete a form TA 556 (Project Materials Acceptance Report). The form **must** include the **exact and full product name and manufacturer**. A copy can be found in Appendix A.

3. Mail or email the form TA 556 to the Certification and Independent Assurance Unit of the Materials Section.

4. The Resident Engineer should keep a copy of form TA 556 for his/her records.

Questions regarding this list should be directed to the Research and Development Section of the Policy, Planning, and Research Bureau at (802) 828-3751.

VTrans Working to Get You There
Vermont Agency of Transportation

William E. Ahearn, P.E.
Research Managing Engineer

March 16, 2015
Date