		NEPCOAT Quali	fied	Pr (<u>duc</u>	ts Li	<u>st A</u>			
		for Protective Coatings for NEW and 100% BARE EXISTING Steel for Bridges								
NTPEP	COA	THE W and 100 /0 DARE I	Slip		"r Coating	VOC	QPL			
System		3-COAT SYSTEM	Coef		min/max)	Tested	Accepted			
-	Coats	TESTED AND ACCEPTED	Class	mil	· · · · · ·		Dates			
No.	Coals	TESTED AND ACCEPTED	Class	mii	micron	g/L	Dates			
NEPCOAT	LIST \mathbf{A}	- INORGANIC Zinc Rich Primer / Epoxy or Urethane	Intermed	liate / Ali	iphatic Uret	hane Finis	<u>h</u>			
SSC(03)-01	(A7-97)	CARBOLINE COMPANY					from			
	Primer	Carbozinc [®] 11 HS Inorganic Zinc Primer	\mathbf{B}^{1}	2-6	50-150	278	2/15/05			
	Interm	Carboguard [®] 893 Epoxy Intermediate		3-6	75-150	189	until			
		Carbothane 133 HB Aliphatic Polyurethane		3-7	75-175	370	spring 2010			
1	¹ Footnote	6 mils max DFT, 18 hrs min cure, 15 oz/gal max thin								
SSC(04)-04*		ICI PAINTS / DEVOE COATINGS					from			
	Primer	Catha-Coat [®] 304V Silicate Inorganic Zinc Coating	\mathbf{B}^{1}	2-4	50-100	319	10/5/06			
	Interm	Bar-Rust [®] 231 Multi-Purpose Epoxy Mastic		4-8	100-200	229	until			
	-	Devthane [®] 379UVA Aliphatic Urethane Enamel		2-3	50-75	255	fall 2010			
1	Footnote	3 mils max DFT, 24 hrs min cure, zero max thin'r								
SSC(06)-05*	k	CARBOLINE COMPANY					from			
	Primer	Carbozinc [®] 11 HS Inorganic Zinc Primer	\mathbf{B}^{1}	2-6	50-150	323	06/21/07			
	Interm	Carboguard [®] 893 Epoxy Intermediate		3-6	75-150	200	until			
	Topcoat	Carbothane 133 LH Aliphatic Polyurethane		3-6	75-150	295	spring 2011			
1	¹ Footnote	6 mils max DFT, 18 hrs min cure, 15 oz/gal max thin								
		on from the Slip-Coefficient and Creep Resistance Tes		-		-				
NOTE 1		AT- NORTHEAST PROTECTIVE COATINGS COMM								
2		Nat'l Transport'n Product Evaluat'n Program). See Str			-	-				
3		ted lab and field testing of coating systems is performed		-						
4	-	are accepted for use on NEW and 100% BARE EXIST		-	-	-	-			
5		xx systems comply with AASHTO R-31 Evaluation Pra			-					
6		ues are lab test results using unthinned samples. NEPC	UAT ma:		mit is 420 g	y」L(3.5 Ib/	gai). Individual			
7		quirements for VOC limits may differ. ended DFT values are listed by manufacturer (see NTP)		line Teel	7) 120 -	had Drad	uat Data Shaata			
7 8		age in coating formulation from that tested will result in					ici Data Sheets.			
8 9	•	term is 5 years starting from the date of acceptance un				-	See P-31			
9 *		ice is CONDITIONAL pending submission within four				-				
	-	dges painted with the paint system must be submitted w	•		•	•				
**		cation is per R-31, sect. 12.1, except that the manufactu		-	-					
		fication term if the identical system is being retested at				u to comp	iete tile 5-year			

		NEPCOAT Qualif	fied	Pro	oduc	ts Li	ist B			
		for Protective Coatings for								
ST ANDTECTIVE	COATMO	NEW and 100% BARE EXISTING Steel for Bridges								
NTPEP			Slip	Manuf	'r Coating	VOC	QPL			
System		3-COAT SYSTEM	Coef	DFT (1	min/max)	Tested	Accepted			
No.	Coats	TESTED AND ACCEPTED	Class	mil	micron	g/L	Dates			
NEPCOAT	LIST B	- ORGANIC Zinc Rich Primer / Epoxy or Urethane Int	termediate	/ Alipha	atic Urethar	ne Finish				
SSC(03)-02	(B7-97)	CARBOLINE COMPANY					from			
	Primer	Carbozinc [®] 859 Organic Zinc Rich Epoxy Primer	\mathbf{B}^{1}	3-10	75-225	326	2/15/05			
	Interm	Carboguard [®] 888 Epoxy Polyamide	_	3-10	75-225	331	until			
		Carbothane 133 HB Aliphatic Polyurethane		3-7	75-175	370	spring 2010			
		6 mils max DFT, 4 days min cure, 10% vol max thin					T O			
SSC(03)-05*	k	AMERON INTERNATIONAL					from			
550(05) 05	Primer	Amercoat [®] 68HS Zinc Rich Epoxy Primer	A^{1}	1-3	25-75	240	11/17/05			
	Interm	Amercoat [®] 399 Fast Drying Epoxy	11	4-8	100-200	182	until mtg.			
		Amercoat [®] 450H Gloss Aliphatic Polyurethane		2-3	50-75	303	fall 2009			
	-	Slip coefficient does not meet Class B requirements		23	20 72	505	1411 2009			
SSC(03)-12*	k	INTERNATIONAL PAINT INC					from			
550(05) 12	Primer	Interzinc [®] 52 Epoxy Zinc Rich	Ø	2-3	50-75	364	2/15/05			
	Interm	Intergard 475HS Epoxy	(not	2- <i>3</i> 4-8	100-200	191	until			
		Interfine [®] 979 Polysiloxane	tested)	3-6	75-150	206	fall 2009			
Q	-	The test was not performed.	(csted)	50	75 150	200	1un 2007			
SSC(04)-02*	k	CARBOLINE COMPANY					from			
550(04)-02	Primer	Carbozinc [®] 859 Organic Zinc Rich Epoxy Primer	\mathbf{B}^{1}	3-10	75-250	327	11/17/05			
	Interm	Carboguard [®] 888 Epoxy Polyamide	Б	3-10	75-200	327	until mtg.			
		Carbodyard 888 Epoxy Polyanide Carbothane 133 LH Aliphatic Polyurethane		3-6	75-150	311	fall 2009			
	-	6 mils max DFT, 4 days min cure, 10% vol max thin		5-0	75-150	511	1all 2009			
(continues)	roothote	(List B continues)					(List B continues)			
¹ Footnote	Informati	on from the Slip-Coefficient and Creep Resistance Test	t Certifica	te is give	en for use w	/ primed b	olted connections.			
NOTE 1	NEPCOA	AT- NORTHEAST PROTECTIVE COATINGS COMM	AITTEE o	f CT, DI	E, ME, MA	, NH, NJ,	NY, PA, RI, VT			
2	NTPEP (Nat'l Transport'n Product Evaluat'n Program). See Str	uctural St	eel Coat	ing test data	a at http://o	lata.ntpep.org.			
3	Accelerat	ted lab and field testing of coating systems is performed	according	g to AAS	SHTO NTP	EP R-31 c	riteria.			
4	Systems a	are accepted for use on NEW and 100% BARE EXISTI	NG steel	for bridg	ges cleaned	by abrasiv	e blasting.			
5	SSC(yr)-:	xx systems comply with AASHTO R-31 Evaluation Pra	actice & N	EPCOA	T Acceptar	nce Criteri	a.			
6	VOC valu	ues are lab test results using unthinned samples. NEPC	OAT max	VOC li	mit is 420 g	g/L (3.5 lb/	/gal). Individual			
	state ree	quirements for VOC limits may differ.								
7	Recomme	ended DFT values are listed by manufacturer (see NTP)	EP DataM	ine Test	7). Also cl	heck Produ	uct Data Sheets.			
8	Any chan	ge in coating formulation from that tested will result in	removal	of the sy	stem from t	he QPL.				
9	The QPL	term is 5 years starting from the date of acceptance unt	il the next	biannua	al NEPCOA	T meeting	g. See R-31.			
*		ce is CONDITIONAL pending submission within four				-				
	-	dges painted with the paint system must be submitted w			•	•	*			
**		cation is per R-31, sect. 12.1, except that the manufactu		-	-					
	-	fication term if the identical system is being retested at t				1	-			

		NEPCOAT Qualified Products List B for Protective Coatings for NEW and 100% BARE EXISTING Steel for Bridges							
NTPEP			Slip		r Coating	VOC	QPL		
System		3-COAT SYSTEM	Coef		nin/max)	Tested	Accepted		
-	Coats	TESTED AND ACCEPTED	Class	mil	micron	g/L	Dates		
NEPCOAT LIS	D	- ORGANIC Zinc Rich Primer / Epoxy or Urethane In		e / Alipha		•			
SSC(04)-03		SHERWIN WILLIAMS COMPANY					from		
P	rimer	Zinc Clad [®] III HS Organic Zinc Rich Epoxy Primer	\mathbf{B}^{1}	3-5	75-125	330	11/17/05		
In	nterm	Macropoxy [®] 646 Fast Cure Epoxy		5-10	125-250	191	until mtg.		
Т	opcoat	Acrolon [™] 218 HS Acrylic Polyurethane		3-6	75-150	280	fall 2010		
	-	5 mils max DFT, 7 days min cure, zero thinner							
SSC(05)-02*		MAB PAINTS					from		
		Ply-Tile Epoxy Organic Zinc Rich Primer	1	3-5	75-125	404	10/5/06		
	term	Ply-Mastic 650 HB Epoxy Coating		4-6	100-150	270	until		
		Ply-Thane 890 HS Aliphatic Acrylic Urethane		2-4	50-100	256	fall 2010		
		Slip coefficient is under retest		2-4	50-100	250	1an 2010		
SSC(06)-11*		CARBOLINE COMPANY					from		
	rimer	Carbozinc [®] 859 Organic Zinc Rich Epoxy Primer	\mathbf{B}^{1}	3-10	75-250	327	4/7/09		
		Carboguard [®] 893 Epoxy Polyamide	D	3-10					
	nterm				75-250	200	until mtg.		
	-	Carbothane 133 LH Aliphatic Polyurethane 6 mils max DFT, 4 days min cure, 10% vol max thin		3-6	75-150	311	spring 2013		
10									
SSC(07)-02*		INTERNATIONAL PAINT INC					from		
P	rimer	Interzinc [®] 315B Epoxy Zinc Rich	Ø	2-6	50-150	291	4/7/09		
In	nterm	Intergard 475HS Epoxy	(not	4-8	100-200	177	until mtg.		
Т	opcoat	Interthane [®] 870 UHS	tested)	3-5	75-125	171	spring 2013		
ø Fo	otnote	The test was not performed.							
NOTE 1 NI 2 NT 3 Ac 4 Sy 5 SS 6 VC	EPCOA TPEP (1 ccelerat vstems a SC(yr)-> OC valu state rec	on from the Slip-Coefficient and Creep Resistance Tes T- NORTHEAST PROTECTIVE COATINGS COMM Nat'l Transport'n Product Evaluat'n Program). See Str ed lab and field testing of coating systems is performed are accepted for use on NEW and 100% BARE EXIST fix systems comply with AASHTO R-31 Evaluation Pra- nes are lab test results using unthinned samples. NEPC quirements for VOC limits may differ.	MITTEE o ructural St 1 accordin ING steel actice & N COAT max	f CT, DF eel Coati g to AAS for bridg IEPCOA t VOC lin	E, ME, MA ing test data SHTO NTP ges cleaned T Acceptar mit is 420 g	, NH, NJ, a at http://c EP R-31 c by abrasiv nce Criteria g/L (3.5 lb/	NY, PA, RI, VT lata.ntpep.org. riteria. e blasting. a. gal). Individual		
		ended DFT values are listed by manufacturer (see NTP			,		ict Data Sheets.		
	-	ge in coating formulation from that tested will result in		-			a		
		term is 5 years starting from the date of acceptance unt				-			
	-	ce is CONDITIONAL pending submission within four	•		•	•			
t	five brid	dges painted with the paint system must be submitted w	vithin two	years. S	ee Accepta	nce Criter	ia.		
** Re	equalifie	cation is per R-31, sect. 12.1, except that the manufactu	urer has ar	addition	nal (6th) ye	ar to comp	lete the 5-year		
1	requalif	ication term if the identical system is being retested at	the end of	the 5-ye	ar term.				

NEPC Cr. M. M. So Mr. R. S	DAT	NEPCOAT Qual	ified	Pro	duc	ts Li	st C			
NORTHELES	T III	for Protective Coatings for								
ROTECTIVE	CONTINUE	NEW and 100% BARE				<u> </u>				
NTPEP			Slip		r Coating	VOC	QPL			
System		2-COAT SYSTEM 10	Coef	DFT (1	nin/max)	Tested	Accepted			
No.	Coats	TESTED AND ACCEPTED	Class	mil	micron	g/L	Dates			
NEPCOAT	LIST C	- ORGANIC Zinc Rich Primer / / Topcoat								
SSC(02)-04	Primer Interm	SHERWIN WILLIAMS COMPANY Corothane [®] I Galvapac One Pack Zinc Primer	B ¹	3.5-4	90-100 	298	from 4/19/05 until			
	-	Fast Clad [®] Urethane		6-9	150-225	263	spring 2010			
	¹ Footnote	4 mils max DFT, 24 hrs min cure								
					6					
¹ Footnote NOTE 1 2 3 4	NEPCOA NTPEP (Accelera Systems	ion from the Slip-Coefficient and Creep Resistance To AT- NORTHEAST PROTECTIVE COATINGS COM Nat'l Transport'n Product Evaluat'n Program). See S ted lab and field testing of coating systems is perform are accepted for use on NEW and 100% BARE EXIS	IMITTEE c Structural St ed accordin TING steel	of CT, DE eel Coati g to AAS for bridg	E, ME, MA ng test data SHTO NTP es cleaned	, NH, NJ, I a at http://c EP R-31 c by abrasiv	NY, PA, RI, VT lata.ntpep.org. riteria. e blasting.			
5 6	VOC val	xx systems comply with AASHTO R-31 Evaluation I ues are lab test results using unthinned samples. NEF quirements for VOC limits may differ.			-					
7		ended DFT values are listed by manufacturer (see NT	PEP DataN	line Test	7). Also cl	heck Produ	ict Data Sheets.			
8		nge in coating formulation from that tested will result			<i>,</i>					
9	-	term is 5 years starting from the date of acceptance u		-			g. See R-31.			
*	-	ice is CONDITIONAL pending submission within for dges painted with the paint system must be submitted	-		-	-	-			
**	-	cation is per R-31, sect. 12.1, except that the manufaction term if the identical system is being retested a			•	ar to comp	lete the 5-year			



NEPCOAT Acceptance Criteria List A, B, C

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

AASHTO R31-Testing Standard & NEPCOAT Acceptance Criteria (3/16/04, 2/15/05, 10/16/08, 4/7/09)

TEST NO. 1 - SLIP COEFFICIENT

<u>Primer</u>	Acceptance criteria (min.)
IOZ	Slip coefficient 0.5 (Class B) required
OZ	Report results only

TEST NO. 2 - SALT FOG RESISTANCE (ASTM B117)

Delamination Rust / Blistering	Acceptance criteria: no delamination allowed Acceptance criteria (max.):							
C	//RUST CRITERIA// BLISTER CRITERI							
Primer	System	<u>@ Hrs</u>	max creep	ave creep	<u>% length</u>	in scribe	<u>@ Hrs</u>	Convers'n #
IOZ	P-I-T	5000	4 mm	2 mm	not req'd	not req'd	4000	8
OZ	P-I-T	5000	8 mm	2 mm	not req'd	not req'd	4000	7

TEST NO. 3 - CYCLIC WEATHERING RESISTANCE (ASTM D5894)

Delamination	Acceptance criteria: no delamination allowed								
Rust / Blistering	Acceptance criteria (max.):								
	// RUST CRITERIA// BLISTER CRITER								
Primer	System	<u>@ Hrs</u>	max creep	ave creep	<u>% length</u>	in scribe	<u>@ Hrs</u>	Convers'n #	
IOZ	P-I-T	5040	4 mm	2 mm	not req'd	not req'd	4032	9	
OZ	P-I-T	5040	8 mm	4 mm	not req'd	not req'd	4032	8	
GLOSS value	Acceptance criteria:		Report results only						
GLOSS % Retent'n	Acceptance criteria:		Report results only						
COLOR Change, Δe	Acceptance cri	iteria:	Report result	s only					

TEST NO. 4 - ABRASION RESISTANCE (ASTM D4060)

Weight Loss	Acceptance criteria:	Report results only
Wear Index	Acceptance criteria:	Report results only

TEST NO. 5 - ADHESION (ASTM D4541)

Pull-Off StrengthAcceptance criteria (min.) for both primer and PIT panels:IOZ2.4 MPa (350 psi)OZ4.1 MPa (600 psi)

TEST NO. 6 - FREEZE THAW STABILITY

Pull-Off Strength Acceptance criteria: achieve min. Test 5 req'd PIT adhesion results and fall within 60% of Test 5 values

TEST NO. 7 - COATING IDENTIFICATION TESTS

VOC	Acceptance criteria:	Max. 420 g/L (3.5 lb/gal). Individual state requirements may differ.
Coating properties	Acceptance criteria:	Report only
Coating thickness	Acceptance criteria:	A 2-coat system shall be tested and applied at min. total 9 mils DFT.

(continued)



NEPCOAT Acceptance Criteria List A, B, C

for Protective Coatings for

NEW and 100% BARE EXISTING Steel for Bridges

AASHTO R31-Testing Standard & NEPCOAT Acceptance Criteria (3/16/04, 2/15/05, 10/16/08, 4/7/09)

TEST NO. 8 - ATMOSPHERIC EXPOSURE (TWO YEAR) at ocean beach site

Acceptance criteria: To be determined / Report results

ITEM NO. 9 - FIELD HISTORY (TWO YEAR)

Acceptance criteria: (All systems after SSC 06-05) The coating manufacturer must submit two notifications;

- (1) a startup list within two years of product acceptance identifying five bridges (in a cold/wet climatic region) which have been coated with a minimum of 400 liters (100 gallons) of the coating system (i.e. total volume of primer, intermediate and topcoat); and
- (2) the same list of bridges within four years of product acceptance after the system has two years (min.) of successful field performance. "Successful performance" is simply defined as whether the Owner is satisfied with its application and performance to date, and whether the Owner would recommend the use of the coating again.

PRODUCT VERIFICATION TESTING

AASHTO R-31 Appendix recommends that the Owner perform product verification testing for determining if the coatings supplied to a project are the same quality as the manufacturer's materials originally tested and certified for acceptance.

The R-31 Test 7- Coating Identification Tests are described in Sect. 9 and Appendix X1, and the lab test results are given in NTPEP DataMine (<u>http://data.ntpep.org</u>) along with the manufacturer's listed values.

When the Owner performs verification testing, the following tolerances apply:

Verification Test	R-31 Section	<u>R-31 App X1</u>	ASTM Test	DataMine Test 7	Tolerance *
Total solids (% by mass)	9.7.13.1	X1.1.1.1.6	D 2369	Line 2	± 5 %
Pigment (% by mass)	9.7.13.5	" 8	D 2371	" 3	± 5 %
Mass per volume (g/L)	9.7.13.8	" 5	D 1475	" 6	±2 %
Viscosity (Stormer)	9.7.13.9	" 4	D 562	" 7	±8 %

* The tolerance is applied to the DATAMINE "test result" value (not the manufacturer's "listed value"). These tolerances apply to the primer and intermediate coats each in their mixed condition (not Part A, Part B components).

For topcoats, if the color is different from the original color in NTPEP testing, then these tolerances apply to the Owner's verification test values the first time a particular color is used.