
2003 PDA Annual Conference

August 19-21, 2003

John Ascuaga's Nugget

Casino Resort

Reno, Nevada

RAPID DEPLOYMENT®

The Next Step

Eric S. Kline - KTA-Tator, Inc.

**L. Brian Castler - Connecticut Department of
Transportation**

Paper describes a new class of coatings for high productivity end-use applications

- **Coatings**
- **Case Studies**

Polyaspartics

A new class of polyurea polymer coating.



VALUE



QUALITY

“Polyaspartics”

Polyaspartic esters are a class of amine functional products which can be used as co-reactants with aliphatic polyisocyanates to form aliphatic polyureas.

Recommended Uses

**For use in accelerated bridge painting projects
over recommended zinc rich primers**

Features and Benefits of Polyaspartic Coatings

- Fast cure/high productivity: 5-120 min hard dry
- High film build (up to 25 mils.)
- Bubble-free film surface
- Formulation flexibility
 - Potlife: 5 min. - 2 hours
 - Controlled cure
- Non-yellowing/gloss retention
- Low waste
- High Solids: 70% to near 100% Solids



Features and Benefits of Polyaspartics Coatings

- Outstanding weather and chemical resistance
- Fast cure
- Low-temperature applicability
- Improved adhesion
- Elasticity between joints, allowing movement of 25-30%

Rapid Deployment

Case Studies

Cost Summary

Definition of Rapid Deployment®

“Encompasses the Total Painting process whereby all work functions are fully contained on a single tailor-mounted unit. The purpose is to minimize lane closures and traffic disruptions to off-peak periods while totally removing the existing paint and applying a two-coat system.”

Painting Process

- Traffic Control
- Rigging/Containment
- Surface Prep/Verification
- Primer
- Finish
- De-Rig



Bridge No. B-501, Milepost 109.88
Bridge No. B-502, Milepost 110.12

PTC Contract # 89-010-RE78

Pennsylvania Turnpike
Somerset County, Pennsylvania

PTC, Somerset, PA



Bridges Over I-77, Akron, Ohio

ODOT Contract # 6005-99

Canton Rapid Deployment

Bridges over I-77, Akron, Ohio



Bridges over I-77, Akron, Ohio



Bridges over I-77, Akron, Ohio



I-84 OVER STARR AVENUE

CTDOT Contract # 151-289

CTDOT Project # 174-293

Federal Aid Number BHX 6174(2)

Site # 3, Bridge # 01186, Danbury CT

Photographs courtesy of:

State of Connecticut

Department of Transportation

L. Brian Castler-Manager of Construction Operations

I-84 over Starr Avenue



I-84 over Starr Avenue



CT SR 911 over I-84 Bridge No. 1199

Information:

State of Connecticut

Department of Transportation

L. Brian Castler-Manager of Construction Operations

CT SR 911 over I-84

	Traditional Three-Coat System		Rapid Deployment Two-Coat System		Difference Savings or (expense)
	COST (12,264 SF)	\$/SF	COST (10,535 SF)	\$/SF	
MPT Labor	\$14,622.81		\$12,170.13		
Traffic Devices	98,989.00	\$9.24	50,774.00	\$5.97	\$3.27
Containment and Equipment					
Mobilization/ Demobilization	\$80,375.42	\$6.55	\$59,305.48	\$5.63	\$0.92
Abrasive Blasting	21,017.29	1.71	10,474.70	0.99	0.72
Primer coat	11,138.38	0.91	7,321.85	0.69	0.22
Intermediate coat	4,606.78	0.38	---	---	0.38
Topcoat	7,346.02	0.60	7,043.47	0.67	(0.07)
Contractor QC	669.93	0.05	471.06	0.04	0.01
Lead Health Protection	15,656.00	1.28	10,988.00	1.04	0.24
TOTAL COST – Contractor	\$254,421.60	\$20.72	\$158,548.69	\$15.03	\$5.69

CT SR 911 over I-84

	Traditional Three-Coat System		Rapid Deployment Two-Coat System		Difference Savings or (expense)
	COST (12,264 SF)	\$/SF	COST (10,535 SF)	\$/SF	
TOTAL COST – Contractor	\$254,421.60	\$20.72	\$158,548.69	\$15.03	\$5.69
Inspection Cost	\$24,125.00	\$1.97	\$18,288.00	\$1.73	\$0.24
Agency Admin. Cost	\$6,837.00	\$0.56	\$4,951.00	\$0.47	\$0.09
Traffic Impact	\$967,520.00	\$78.89	\$634,935.00	\$60.27	\$18.62

CT SR 911 over I-84



From this condition...

CT SR 911 over I-84



...to this condition

CT SR 911 over I-84



Equipment train, abrasive recycling equipment

CT SR 911 over I-84



Mobile containment

CT SR 911 over I-84



Abrasive recovery in containment

CT SR 911 over I-84



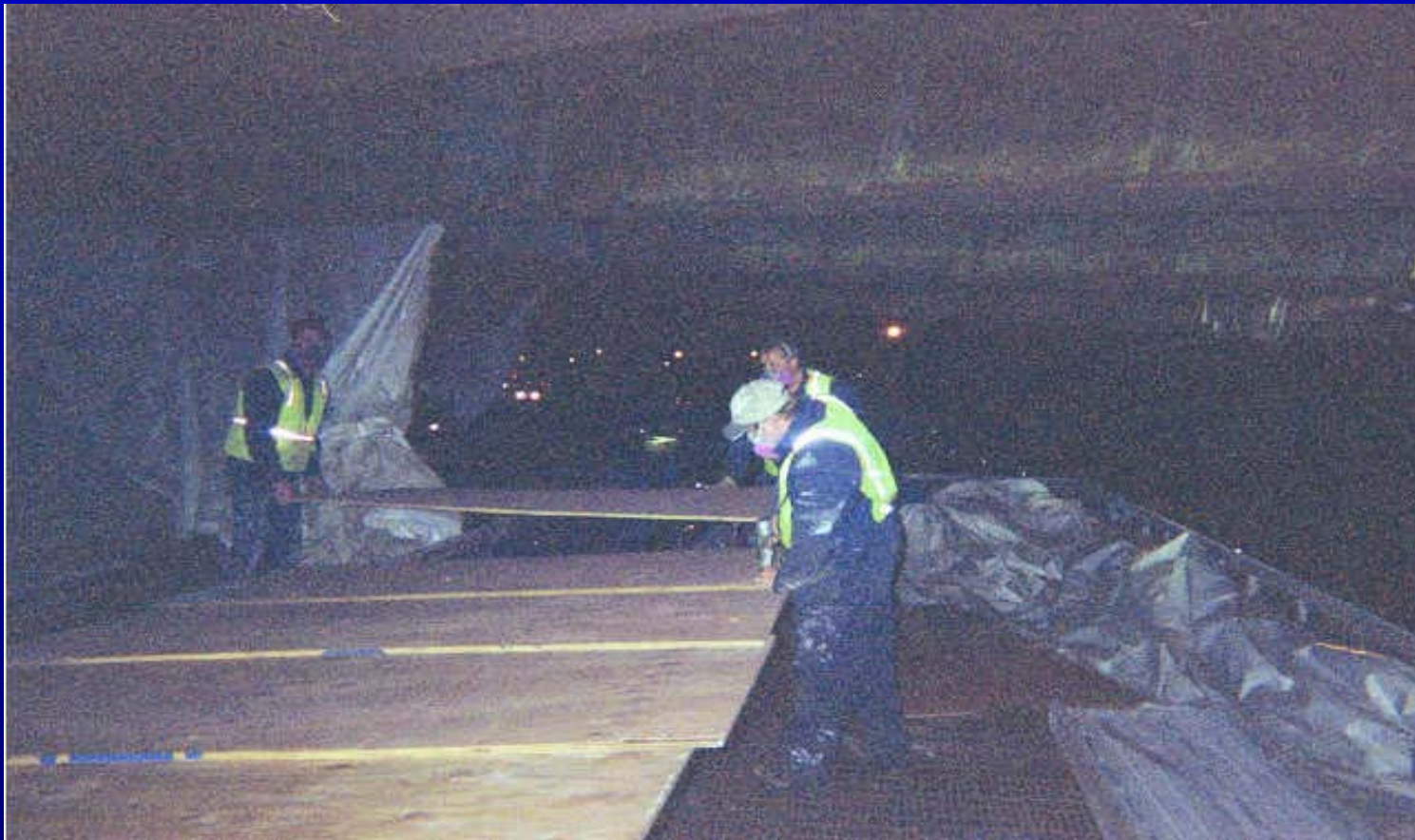
Rapid Deployment® trucks side by side

CT SR 911 over I-84



Hydraulically elevated containment

CT SR 911 over I-84



Setting plywood on containment floor

CT SR 911 over I-84



Wing construction to the side of Rapid Deployment® containment

CT SR 911 over I-84



Dust collection connected to Rapid Deployment® trucks

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Working at night means lighting

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Bulkhead in place for overlap area

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Inside containment and ready to blast clean.

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Striping fasteners

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Primer application MCU ZR

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Spraying inside containment

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Air monitoring

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Traditional containment on hangers

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Vacuumping abrasive off floor in a traditional containment

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Abrasive recovery funnels on bottom of mobile containment

QUESTIONS???

