FasTrac
CONSTRUCTION PRODUCTS

FASTRAC CE700 Hybrid Polymer Concrete

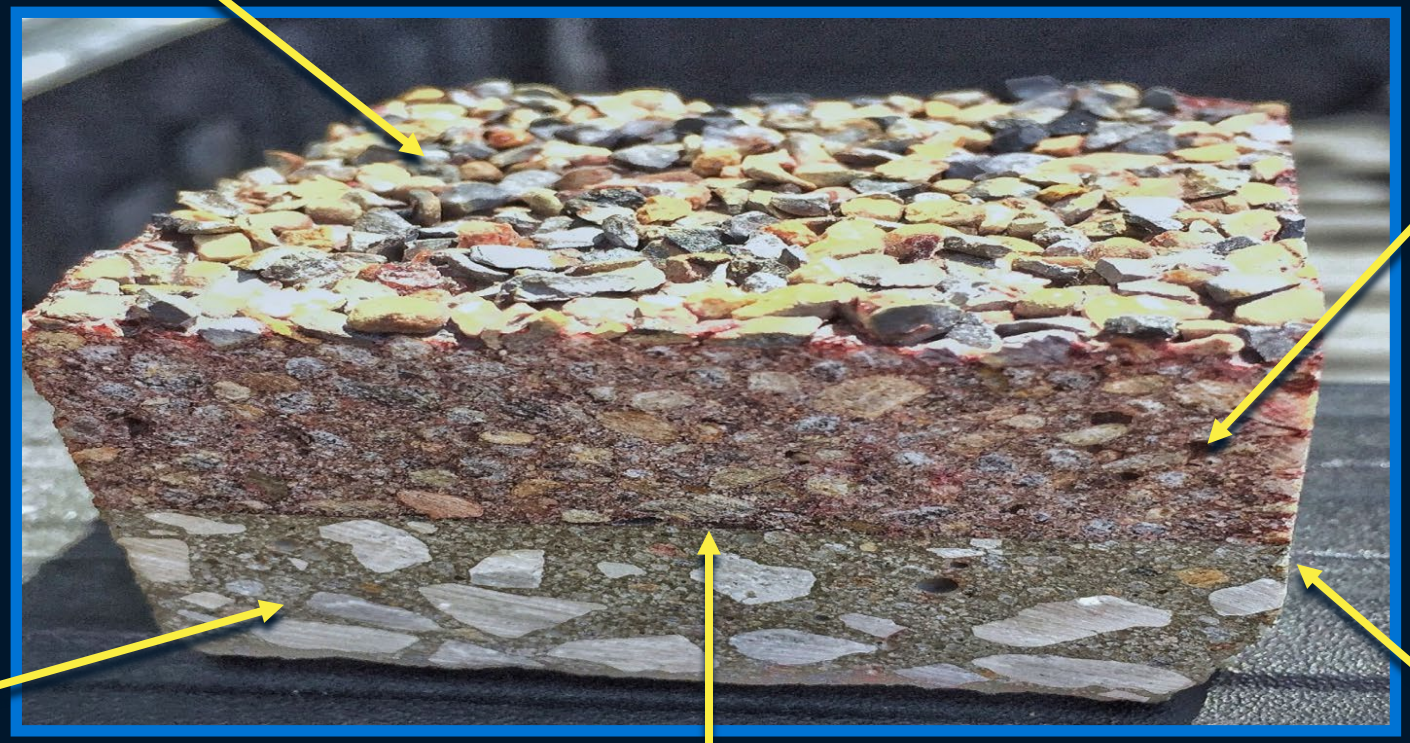
CEMENTS | CONCRETES | EPOXIES | GROUTS | MORTARS | MIXING SYSTEMS | HFST

Interstate 20 at Exit 1C Vicksburg Mississippi

FasTrac
HYBRID POLYMER CONCRETE

Friction Aggregate

FasTrac CE700
HPC Polymer
Concrete



Concrete
Deck

Self-Priming

Bond Line

CALTRANS 405 SOUTHBOUND LOS ANGELES

HYBRID POLYMER CONCRETE

Work Faster, Work Better, Work Smarter

FasTrac CE700 Patch was designed with speed in mind. Traffic-ready in three hours without the need for a primer or bonding agent. Self curing. Dry or damp substrates. High tensile strengths without the brittleness of high modulus systems.

Dry or damp substrates
NO VOC's

HIGH Tensile Strength without Brittleness of High Modulus Systems

Rapid Return to Traffic in Less Than 3 Hours

Effective Long-Lasting Partial Depth Joint Repairs for Challenging Conditions

NRRA PREVENTIVE MAINTENANCE TEAM

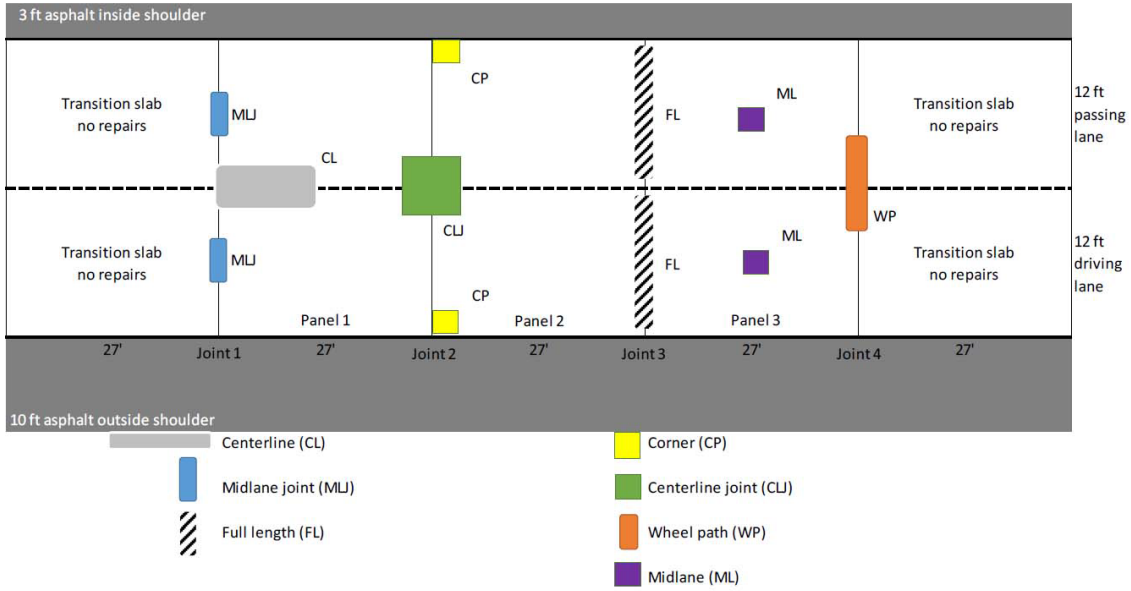
A pooled fund project administered by the Minnesota Department of Transportation

Report No. NRRA202104

The distress areas were created on September 27, 2017, which was a sunny day with an average temperature of about 60 degrees Fahrenheit. A rotary head milling machine was used to create the distress areas (distress). The process of milling was more aggressive than anticipated and created much larger areas – both in width and depth – than would typically receive partial depth patching. As such, some of the material providers did not have enough material on-hand to patch all the distresses in a test cell. Some of the test cells contain two different patch materials to accommodate for the lack of product. The layout of patch materials used for each distress within each test cell are described in detail in Section 4.3.

Each distress was air blasted to remove the loose rubble left after the milling process. Several distresses were then sandblasted. However, due to a restricted time window and for the sake of streamlining the installation of the patches, not all of the distresses were sandblasted. Section 4.3 details which distresses were sandblasted in the observations of each individual cell. A final cleaning with a traditional leaf blower was performed in each distress before patch material was placed.

The figure below provides the typical patching types and locations within a test cell. Note that the order of the patching types varies within each cell, but each cell contains all types. The actual order of the patching types for each test cell are shown in Section 4.3.



STUDY METHODS

Rating	Patch Condition Description
4	Excellent; 100% of patch is intact, only shrinkage cracks present
3	Good; distresses (cracking and debonding) exist, but 100% of original patch is in place
2	Fair; less than 50% of the original patch is gone/been replaced
1	Poor; over 50% of the original patch is gone/been replaced
0	Failed; original patch no longer exists

Figure 4.2 Patch Condition Rating = 4 [No Distress]

Figure 4.4 Patch Condition Rating = 2 [Linear cracks and <50% material loss]

Figure 4.3 Patch Condition Rating = 3 [Linear cracks]

Figure 4.5 Patch Condition Rating = 1 [Linear cracks and >50% material loss]

STUDY RESULTS

HYBRID POLYMER CONCRETE

No photo		
Cell/Product/Location: 94003(B) - Western Material and Design, CE 700 HPC – Passing MLJ		
2018 Condition (Rating): No distress (4)	2019 Condition (Rating): No distress (4)	2020 Condition (Rating): No distress (4)
No photo		
Cell/Product/Location: 94003(B) - Western Material and Design, CE 700 HPC – WP		
2018 Condition (Rating): No distress (4)	2019 Condition (Rating): No distress (4)	2020 Condition (Rating): No distress (4)
No photo		
Cell/Product/Location: 94003(B) - Western Material and Design, CE 700 HPC – Passing ML		
2018 Condition (Rating): No distress (4)	2019 Condition (Rating): No distress (4)	2020 Condition (Rating): No distress (4)
No photo		
Cell/Product/Location: 94003(B) - Western Material and Design, CE 700 HPC – Passing FL		
2018 Condition (Rating): No distress (4)	2019 Condition (Rating): No distress (4)	2020 Condition (Rating): No distress (4)

COMPETITION

		
Cell/Product/Location: 94008(A) – Aqua Patch Road Materials, Aqua Patch – WP		
2018 Condition (Rating): Linear cracks, <50% patch gone (2)	2019 Condition (Rating): 100% patch gone (0)	2020 Condition (Rating): 100% patch gone (0)
No photo		
Cell/Product/Location: 94008(A) – Aqua Patch Road Materials, Aqua Patch – Driving ML		
2018 Condition (Rating): No distress (4)	2019 Condition (Rating): <50% patch gone (2)	2020 Condition (Rating): >50% patch gone (1)
No photo		
Cell/Product/Location: 94008(A) – Aqua Patch Road Materials, Aqua Patch – CL		
2018 Condition (Rating): Linear cracks (3)	2019 Condition (Rating): 100% patch gone (0)	2020 Condition (Rating): 100% patch gone (0)
No photo		
Cell/Product/Location: 94008(A) – Aqua Patch Road Materials, Aqua Patch – Passing MLJ		
2018 Condition (Rating): Linear cracks, <50% patch gone (2)	2019 Condition (Rating): >50% of patch gone (1)	2020 Condition (Rating): 100% patch gone (0)

Product	Condition Rating After Installation**		
	1 Year After	2 Years After	3 Years After
Aqua Patch Road Materials, Aqua Patch	2.7	0.9	0.3
Crafco, HP Concrete Cold Patch	4	2.3	2
Crafco, TechCrete-TBR	4	3.9	3.9
CTS, Rapid Set DOT Repair Mix	3.9	3.7	3.5
CTS, Rapid Set DOT Repair Mix with Helix 5-25-SS BA Fibers	3.8	3.3	3.3
CTS, Rapid Set DOT Repair Mix with Helix 5-25-Standard BA Fibers	3.8	3.7	3.5
DS Brown, PaveSaver Polymeric Concrete Patch	4	3.6	3.4
Five Star Products, Rapid Surface Repair Easy Mix	3.5	2.2	1.8
Five Star Products, Rapid Surface Repair Epoxy Fix*	3	0.5	0.5
SpecChem, RepCon 928	3.7	2.5	2.3
TCC Materials, 3U18 Modified	4	3.6	3.6
TCC Materials, ProSpec Concrete Patching Mix	3.3	2.6	2.6
USG, Ecofix	3.9	3.4	3.1
Western Material and Design, CE 700 HPC	4	4	4
Western Material and Design, FasTrac 246	4	3.5	3.5
Willamette Valley Company, FastPatch DPR	4	3.4	3.4
Hot Mix Asphalt	NA	NA	NA

FasTrac
HYBRID POLYMER CONCRETE

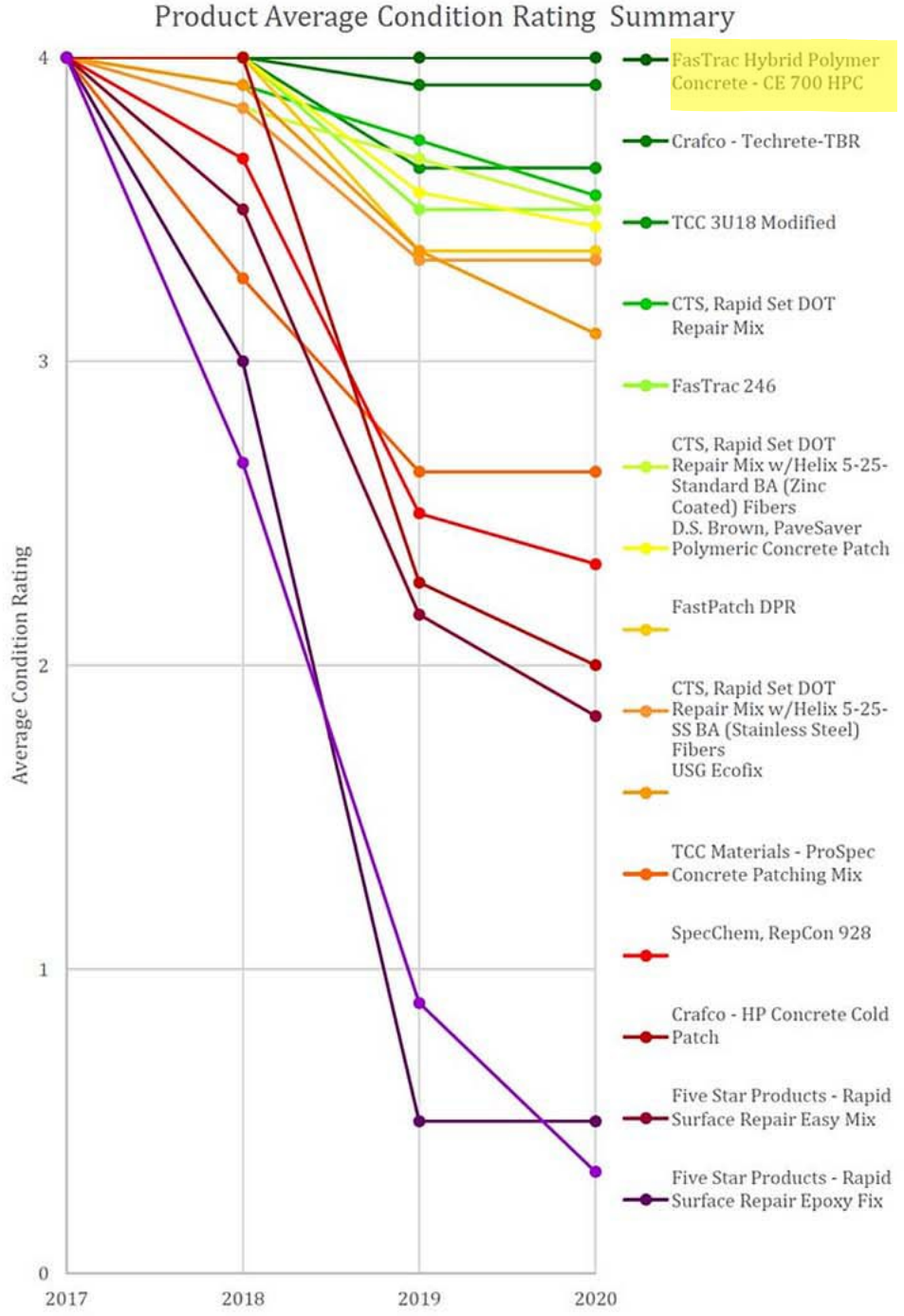
FASTRAC RANKS #1 IN RECENT STUDY

Here are the final results from the 3 yr. study on patching products conducted at the MNROAD facility in Minnesota.

Hybrid Polymer Concrete only product to receive a perfect score!

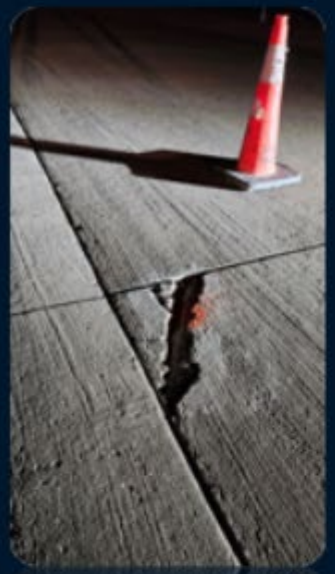
PATCH IN 2018

PATCH IN 2020

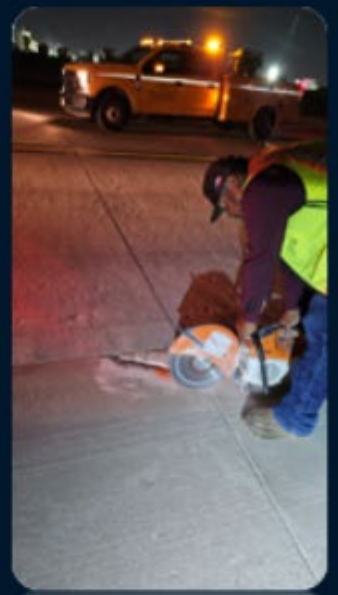


Individual	20 minute data															
	DRAFT	13229-5735							ASTM C779C							
		Avg Depth of Abrasion (inches)														
	Date	10/27/2023	10/27/2023	10/27/2023	12/6/2023	10/27/2023	10/27/2023	10/27/2023	12/6/2023	10/27/2023	10/27/2023	10/27/2023	12/6/2023	10/27/2023	10/27/2023	10/27/2023	12/6/2023
	Lab ID	5735-1				5735-2				5735-3				5735-4			
	Client ID	#1				#2				#3				#4			
	Top	0.092	0.095	0.096	0.101	0.135	0.134	0.137	0.162	0.106	0.103	0.104	x	0.093	0.094	0.089	0.111
	Bottom	0.046	0.043	0.044	0.054	x	x	x	x	x	x	x	x	0.049	0.049	0.046	0.062

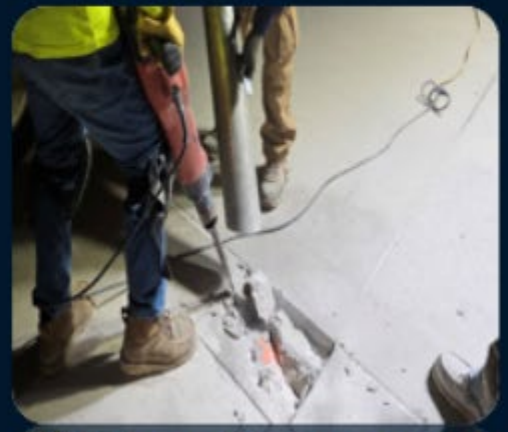
Step – by – Step.



1st locate your damage

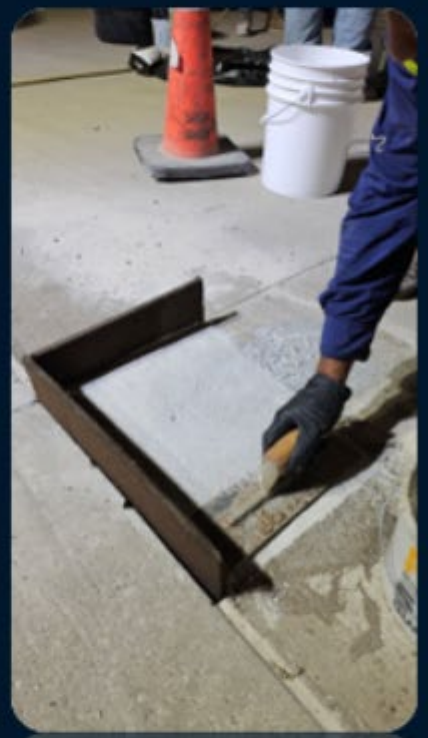


2nd saw cut the area



3rd chip and vacuum to remove loose concrete

4th use form board to isolate the patch from adjacent slabs

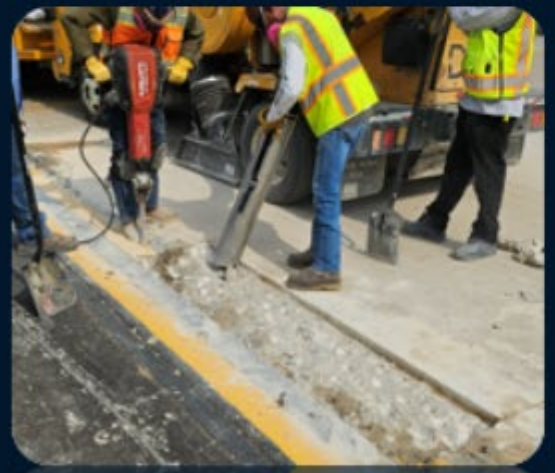


5th place your material. Cut off excess form board after HPC hardens

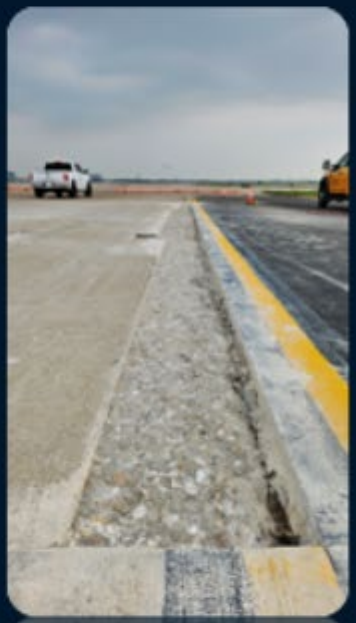
Step – by – Step (continued).

1st locate your damage

2nd saw cut the area



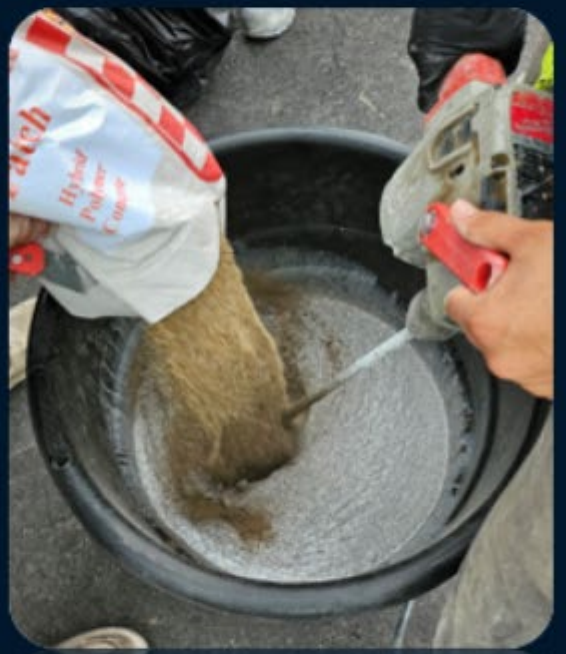
3rd chip and vacuum to remove loose concrete

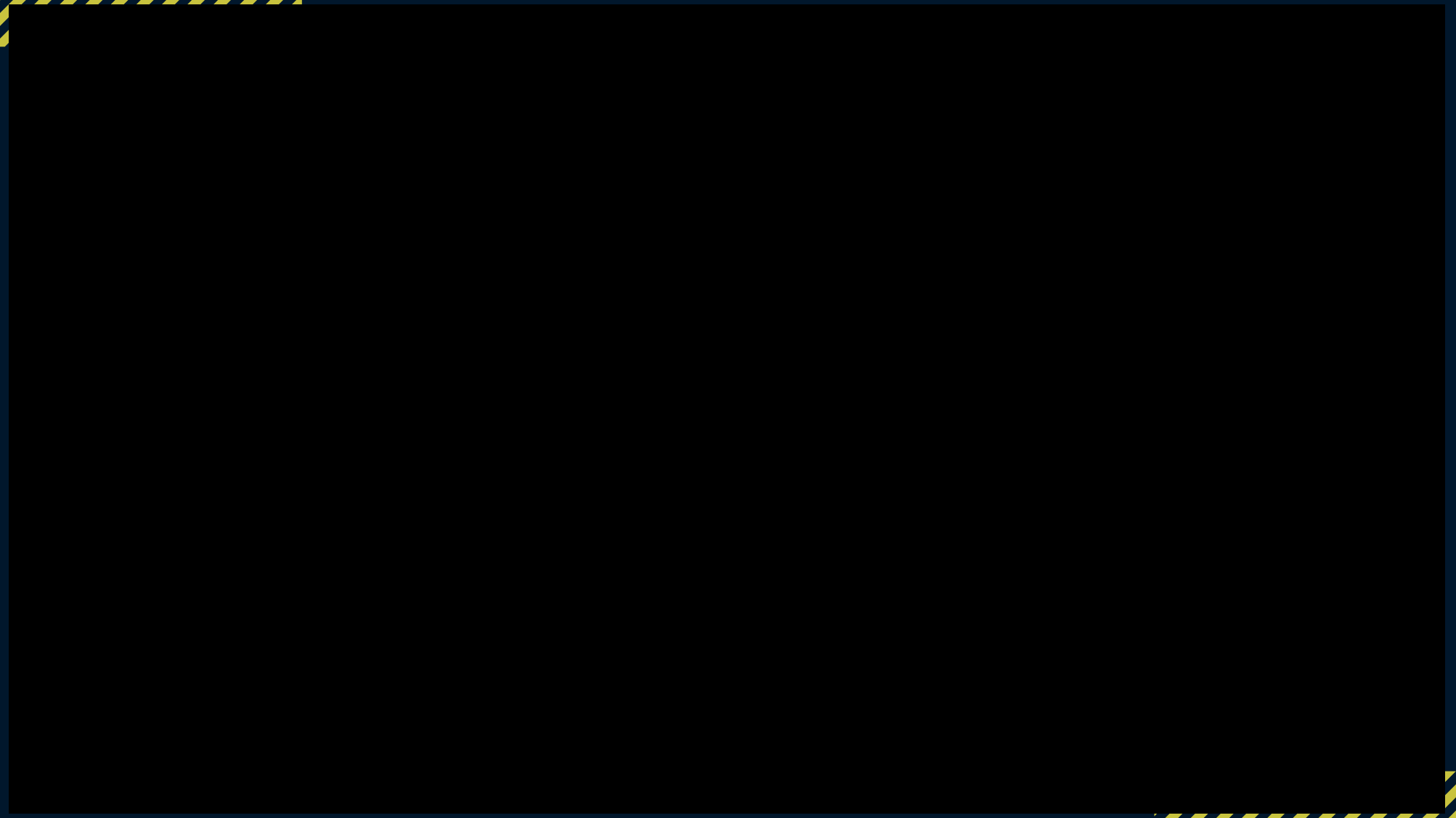


HPC can be placed even with moisture on the surface

Step – by – Step (continued).

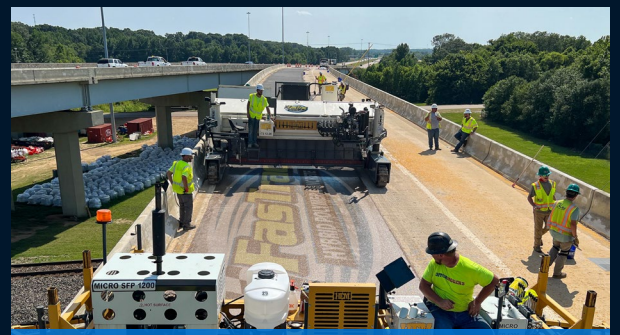
4th mix the HPC





Featured Projects

Successful projects featuring **FasTrac Hybrid Polymer Concrete**



Desoto County, MS

Redding, CA

DFW Airport, TX

Sedalia, MO

Rankin Co, MS

Los Angeles, CA

Bridge Deck in Need of Repair

Discharge from FasTrac Mixer

Hybrid Polymer Concrete is strong like concrete, and flexible like asphalt.

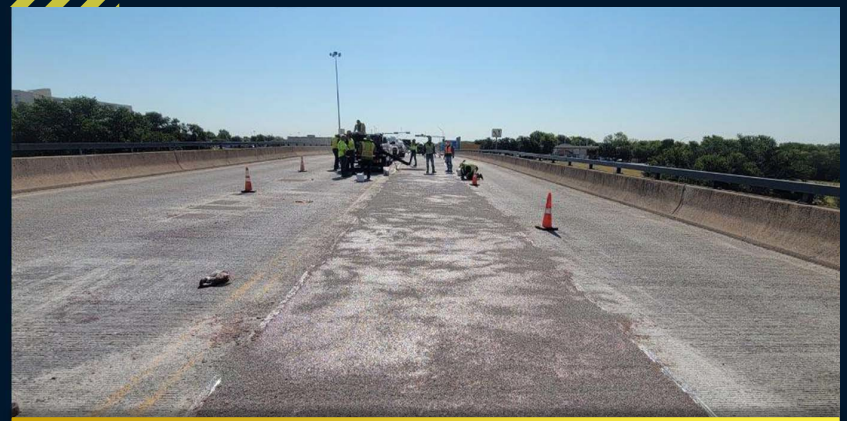
Crews were able to expedite repairs by mixing onsite with our trailer-mounted FasTrac 500 Skid Steer Mixer.

DFW AIRPORT

TEXAS

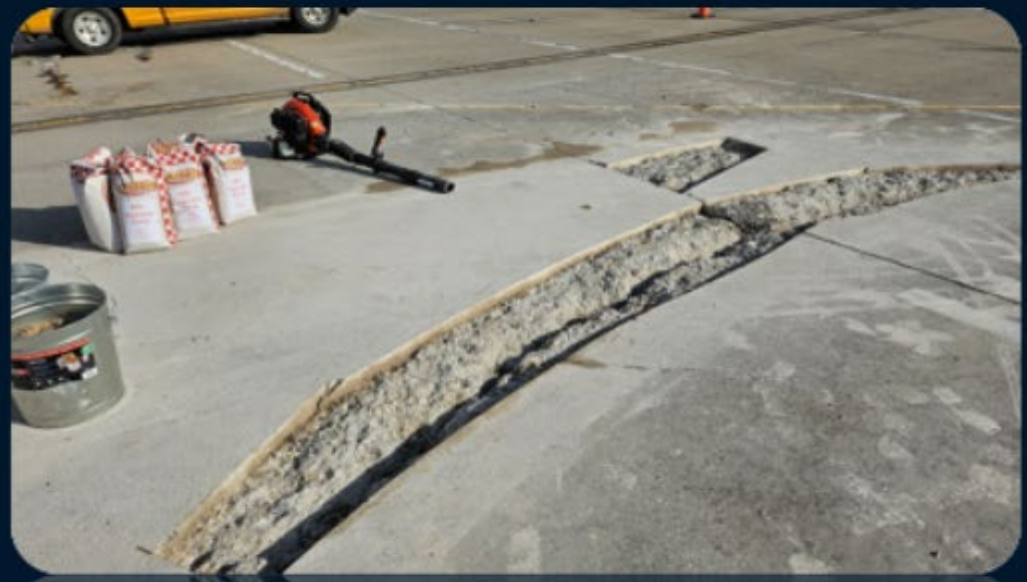
The bridge deck was deteriorated to the point of revealing the reinforcement bars beneath the concrete.

Open to Traffic in Under 3 Hours



Safe, Smooth Ride

DFW Airport airfield patching



DFW Airport patching examples

GRADE CORRECTION

Sedalia, MO

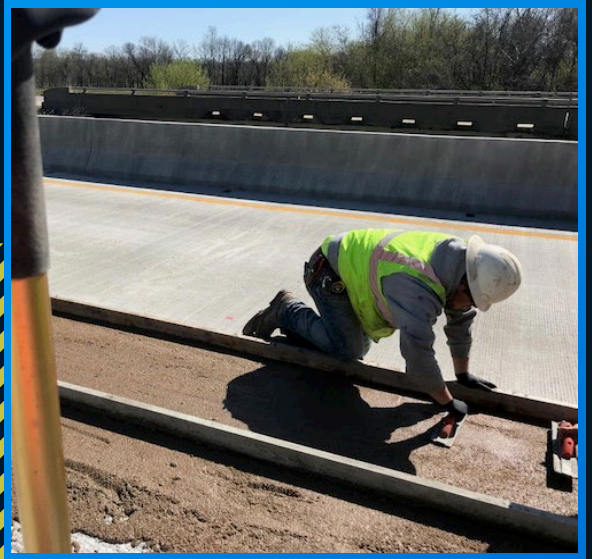
FasTrac Hybrid Polymer Concrete is an excellent solution for grade correction issues. State Highway 65 in Sedalia, MO was in need of such a solution.

The concrete deck was key cut approximately 15-20 feet back from the joints and the area was milled.

FasTracHPC was applied to the area at depths from 1/2’” to 1” to level the driving surface to the joints. Calcined bauxite was applied to the surface for additional traction control and was ready for traffic in 2 hours.

Milled

Applied



Ease of Use

Calcined Bauxite

Los Angeles, California - CALTRANS

No Odors & Zero VOC

No dangerous toxic emissions and safe to use.

Rapid Return to Traffic

Return to traffic in less than 3 hours.

Outstanding Bond & Resilience

Long-term durability.

The I-405 project was the fourth HPC specified project by CALTRANS in the State of California, and the biggest in California. FasTrac Hybrid Polymer Concrete now provides CALTRANS a safe and environmentally friendly high-performance material.

Desoto Co, MS

SPALL REPAIR & BRIDE DECK PRESERVATION

Hybrid Polymer Concrete was selected as an excellent solution for spall repairs and bridge deck preservation at the intersection of State Road 305 and State Road 302 in Olive Branch, MS.

Before

Application

Application

After

HYBRID POLYMER CONCRETE

Strong like Concrete. Flexible like Asphalt.

NO PRIMER SELF CURING

FasTrac HYBRID POLYMER CONCRETE

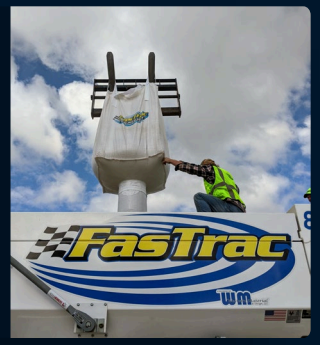
Impermeability Provides for Excellent Bridge Preservation

Optimal Balance Between Strength and Flexibility

Exceptional Tensile and Bond Strength

Additional Benefits

No Volatile Chemicals and Zero VOC



Ideal for bridge deck resurfacing, concrete repair, grade correction, slab repair, expansion joint headers, runway and taxiway repair, and elevated parking structure overlays.

All components blend easily together producing a consistent, high-performance material.

Engineered Mixing Equipment

Custom Volumetric Mixer Provides Consistency

Thank You.

www.fastracproducts.com