



Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

September 23, 2026

Daniel Holt, PE, PTOE
Director, Project Delivery
Director, Technical Services
FHWA
400 West Washington Street, Suite 4200
Orlando, FL 32801

Re: State Specifications Office
Section: 400
Proposed Specification: **4002103 Concrete Structures**

Dear Mr. Holt:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

The changes are proposed by Oliver Chung to add bearing pad on APL to meet BABA policy and editorial changes to the tables.

Please review and transmit your comments, if any, within two weeks (10 business days). Comments should be sent via email daniel.strickland@dot.state.fl.us.

If you have any questions relating to this specification change, please call me at (850) 414-4130.

Sincerely,

Signature on File

Daniel Strickland, P.E.
State Specifications Engineer

DS/jb

Attachment

cc: Florida Transportation Builders' Assoc.
State Construction Engineer

CONCRETE STRUCTURES

(REV 5-6-26)

ARTICLE 400-2 is deleted and the following substituted:

400-2 Materials.

Meet the following requirements:

Concrete	Sections 346 and 347
Penetrant Sealer	Section 413
High Molecular Weight Methacrylate (HMWM)**	
.....	Section 413
Reinforcing for Concrete	Section 415
Water	Section 923
Curing Materials*,**	Section 925
Epoxy Bonding Compounds**	Section 926
Post Installed Anchor Systems**	Section 937
Joint Materials**	Section 932
Bearing Pads**	Section 932
Non-Shrink Grout**	Section 934
Class 5 Applied Finish Coatings**	Section 975
Galvanizing Compound**	Section 562
Dowel Bar Assembly**	Section 931
Geosynthetic Material**	Section 985

*The Engineer will allow clean sand and sawdust for certain curing, when and as specified.

**Use products listed on the Department's Approved Product List (APL).

SUBARTICLE 400-21.5.2 is deleted and the following substituted:

400-21.5.2 Structural Cracks: Submit an Engineering Analysis Scope in accordance with 6-4, signed and sealed by the Contractor's Engineer of Record, to determine the strength and durability of the proposed repair. Upon approval of the EAR and final determination of the Engineer, repair or remove and replace the cracked concrete in accordance with the approved EAR.

Table 400-3 DISPOSITION OF CRACKED CONCRETE OTHER THAN BRIDGE DECKS [see separate Key of Abbreviations and Footnotes for Tables 400-3 and 400-4]													
Elevation - Range	Crack Width Range (inch) - ⁽²⁾ x = crack width	Cracking Significance Range per LOT - ⁽¹⁾											
		Isolated			Occasional			Moderate			Severe		
		Less than 0.005%			$\geq 0.005\%$ to $< 0.017\%$			$\geq 0.017\%$ < to $< 0.029\%$			$\geq 0.029\%$ or gtr.		
		Environment Category											
		SA	MA	EA	SA	MA	EA	SA	MA	EA	SA	MA	EA

Table 400-3
DISPOSITION OF CRACKED CONCRETE OTHER THAN BRIDGE DECKS
[see separate Key of Abbreviations and Footnotes for Tables 400-3 and 400-4]

Elevation: ≤ 0 to 6 ft AMHW	$x \leq 0.004$	NT	NT	PS ⁻⁽⁶⁾	NT	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾					
	$0.004 < x \leq 0.008$	NT	PS ⁻⁽⁶⁾	EI ⁻⁽³⁾	PS ⁻⁽⁶⁾	EI ⁻⁽³⁾	EI ⁻⁽³⁾	PS ⁻⁽⁶⁾						
	$0.008 < x \leq 0.012$	NT	PS ⁻⁽⁶⁾	EI										
	$0.012 < x \leq 0.016$	PS ⁶⁻⁽⁶⁾												
	$0.016 < x \leq 0.020$	Investigate to Determine Appropriate Repair ^(4, 5) or Rejection												
	$0.020 < x \leq 0.024$									Reject and Replace				
	$0.024 < x \leq 0.028$													
	$x > 0.028$													
Elev.: More Than 6 ft to 12-20 ft AMHW	Crack Width	SA	MA	EA	SA	MA	EA	SA	MA	EA	SA	MA	EA	
	$x \leq 0.004$	NT	NT	PS ⁻⁽⁶⁾	NT	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾			
	$0.004 < x \leq 0.008$	NT	PS ⁻⁽⁶⁾	EI ⁻⁽³⁾	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾	EI ⁻⁽³⁾	PS ⁻⁽⁶⁾	EI ⁻⁽³⁾					
	$0.008 < x \leq 0.012$	NT	PS ⁻⁽⁶⁾	EI	EI	EI								
	$0.012 < x \leq 0.016$	PS ⁻⁽⁶⁾	EI	EI	EI									
	$0.016 < x \leq 0.020$	EI	Investigate to Determine Appropriate Repair ^(4, 5) or Rejection							Reject and Replace				
	$0.020 < x \leq 0.024$													
	$x > 0.024 < x \leq 0.028$													
Elev.: Over Land or More Than	Crack Width	SA	MA	EA	SA	MA	EA	SA	MA	EA	SA	MA	EA	
	$x \leq 0.004$	NT	NT	NT	NT	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾			
	$0.004 < x \leq 0.008$	NT	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾	PS ⁻⁽⁶⁾	EI ⁻⁽³⁾	PS ⁻⁽⁶⁾	EI ⁻⁽³⁾	EI ⁻⁽³⁾	PS ⁻⁽⁶⁾			
	$0.008 < x \leq 0.012$	NT	PS ⁻⁽⁶⁾	EI	EI	EI	EI	EI	EI					
	$0.012 < x \leq 0.016$	PS ⁻⁽⁶⁾	EI	EI	EI	EI	EI							
	$0.016 < x \leq 0.020$	EI	EI	EI	EI	Investigate to Determine Appropriate Repair ^(4, 5) or Rejection					Reject and Replace			
	$0.020 < x \leq 0.024$	EI												
	$x > 0.024 < x \leq 0.028$													

Table 400-4 DISPOSITION OF CRACKED CONCRETE BRIDGE DECKS [see separate Key of Abbreviations and Footnotes for Tables 400-3 and 400-4]													
Elevation Range	Crack Width Range (inch) ⁽²⁾ x = crack width	Cracking Significance Range per LOT ⁽¹⁾											
		Isolated			Occasional			Moderate			Severe		
		less than $\leq 0.005\%$			$\geq 0.005\%$ to $< 0.017\%$			$\geq 0.017\%$ to $< 0.029\%$			$\geq 0.029\%$ or gr.		
		Environment Category											
		SA	MA	EA	SA	MA	EA	SA	MA	EA	SA	MA	EA
Elevation: 12-20 feet or Less AMHW	$x \leq 0.004$	NT	NT	NT	NT	NT	NT	NT	NT	NT			
	$0.004 < x \leq 0.008$	NT	NT	EI/M	NT	NT	EI/M	EI/M	EI/M	EI/M			
	$0.008 < x \leq 0.012$	NT	NT	EI/M	NT	EI/M	EI/M	EI/M	EI/M				
	$0.012 < x \leq 0.016$	NT	NT	EI/M	NT	EI/M							
	$0.016 < x \leq 0.020$	EI/M	EI/M	EI	EI								
	$0.020 < x \leq 0.024$	EI/M	EI	EI	Investigate to Determine Appropriate Repair ^(4, 5) or Rejection						Reject and Replace		
	$0.024 < x \leq 0.028$	EI/M	EI										
	$x > 0.028$												
Elevation: Over Land or More Than 12-20 feet AMHW	Crack Width	SA	MA	EA	SA	MA	EA	SA	MA	EA	SA	MA	EA
	$x \leq 0.004$	NT	NT	NT	NT	NT	NT	NT	NT	NT			
	$0.004 < x \leq 0.008$	NT	NT	NT	NT	NT	EI/M	NT	EI/M	EI/M			
	$0.008 < x \leq 0.012$	NT	NT	EI/M	NT	NT	EI/M	EI/M	EI/M				
	$0.012 < x \leq 0.016$	NT	NT	EI/M	NT	EI/M							
	$0.016 < x \leq 0.020$	NT	EI/M	EI	EI/M								
	$0.020 < x \leq 0.024$	NT	EI/M	EI	Investigate to Determine Appropriate Repair ^(4, 5) or Rejection						Reject and Replace		
	$0.024 < x \leq 0.028$	NT	EI/M										
$x > 0.028$													

Key of Abbreviations and Footnotes for Tables 400-3 and 400-4		
Type Abbreviation	Abbreviation	Definition
Repair Method	EI	Epoxy Injection
	M	Methacrylate
	NT	No Treatment Required
	PS	Penetrant Sealer
Environment Category	EA	Extremely Aggressive
	MA	Moderately Aggressive
	SA	Slightly Aggressive
Reference Elevation	AMHW	Above Mean High Water
<u>Footnotes</u> (1) Cracking Significance Range is determined by computing the ratio of Total Cracked Surface Area (TCSA) to Total Surface Area (TSA) per LOT in percent $[(TCSA/TSA) \times 100]$ then by identifying the Cracking Significance Range in which that value falls. TCSA is the sum of the surface areas of the individual cracks in the LOT. The surface area of an individual crack is determined by taking width measurements of the crack at 3 representative locations and then computing their average which is then multiplied by the crack length. (2) Crack Width Range is determined by computing the width of an individual crack as computed in (1) above and then identifying the range in which that individual crack width falls. (3) When the Engineer determines that a crack in the 0.004 inch to 0.008-inch width range cannot be injected then for Table 400-3 use penetrant sealer unless the surface is horizontal, in which case, use methacrylate if the manufacturer's recommendations allow it to be used and if it can be applied effectively as determined by the Engineer. (4) (a) Perform epoxy injection of cracks in accordance with Section 411. Seal cracks with penetrant sealer or methacrylate as per Section 413. (b) Use only methacrylate or penetrant sealer that is compatible, according to manufacturer's recommendations, with previously applied materials such as curing compound or paint or remove such materials prior to application. (5) When possible, prior to final acceptance of the project, seal cracks only after it has been determined that no additional growth will occur. (6) Methacrylate shall be used on horizontal surfaces in lieu of penetrant sealer if the manufacturer's recommendations allow it to be used and if it can be applied effectively as determined by the Engineer. (7) Unless directed otherwise by the Engineer, repair cracks in bridge decks only after the grinding and grooving required by 400-15.2.5 is fully complete.		

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		Isolated < 0.005%			Occasional ≥ 0.005% < 0.017%			Moderate ≥ 0.017% < 0.029%			Severe ≥ 0.029%		
		Environment Category											
		SA	MA	EA	SA	MA	EA	SA	MA	EA	SA	MA	EA
VI 6	x ≤ 0.004	NT	NT	PS ⁶	NT	PS ⁶	PS ⁶	PS ⁶	PS ⁶				

Table 400-3
DISPOSITION OF CRACKED CONCRETE OTHER THAN BRIDGE DECKS
[see separate Key of Abbreviations and Footnotes for Tables 400-3 and 400-4]

	$0.004 < x \leq 0.008$	NT	PS ⁶	EI	PS ⁶	EI ³	EI ³	PS ⁶						
	$0.008 < x \leq 0.012$	NT	PS ⁶	EI										
	$0.012 < x \leq 0.016$	PS ⁶												
	$0.016 < x \leq 0.020$	Investigate to Determine												
	$0.020 < x \leq 0.024$	Appropriate Repair ^(4, 5)												
	$0.024 < x \leq 0.028$	or Rejection									Reject and Replace			
	$x > 0.028$													
> 6 ft ≤ 20 ft AMHW		SA	MA	EA	SA	MA	EA	SA	MA	EA	SA	MA	EA	
	$x \leq 0.004$	NT	NT	PS ⁶	NT	PS ⁶	PS ⁶	PS ⁶	PS ⁶	PS ⁶	PS ⁶			
	$0.004 < x \leq 0.008$	NT	PS ⁶	EI ³	PS ⁶	PS ⁶	EI ³	PS ⁶	EI ³					
	$0.008 < x \leq 0.012$	NT	PS ⁶	EI	EI	EI								
	$0.012 < x \leq 0.016$	PS ⁶	EI	EI	EI									
	$0.016 < x \leq 0.020$	EI	Investigate to Determine Appropriate											
	$0.020 < x \leq 0.024$	Repair ^(4, 5) or Rejection									Reject and Replace			
$x > 0.024$														
Over Land or > 20 ft AMHW		SA	MA	EA	SA	MA	EA	SA	MA	EA	SA	MA	EA	
	$x \leq 0.004$	NT	NT	NT	NT	PS ⁶	PS ⁶	PS ⁶	PS ⁶	PS ⁶	PS ⁶			
	$0.004 < x \leq 0.008$	NT	PS ⁶	PS ⁶	PS ⁶	PS ⁶	EI ³	PS ⁶	EI ³	EI ³	PS ⁶			
	$0.008 < x \leq 0.012$	NT	PS ⁶	EI	EI	EI	EI	EI	EI					
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	$0.016 < x \leq 0.020$	EI	EI	EI	EI	Investigate to Determine								
	$0.020 < x \leq 0.024$	EI					Appropriate Repair ^(4, 5) or							
	$x > 0.024$					Rejection						Reject and Replace		

Table 400-4 DISPOSITION OF CRACKED CONCRETE BRIDGE DECKS [see separate Key of Abbreviations and Footnotes for Tables 400-3 and 400-4]													
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		Isolated < 0.005%			Occasional ≥ 0.005% < 0.017%			Moderate ≥ 0.017% < 0.029%			Severe > 0.029%		
		Environment Category											
		SA	MA	EA	SA	MA	EA	SA	MA	EA	SA	MA	EA
20 feet or Less AMHW	x ≤ 0.004	NT	NT	NT	NT	NT	NT	NT	NT	NT			
	0.004 < x ≤ 0.008	NT	NT	EI/M	NT	NT	EI/M	EI/M	EI/M	EI/M			
	0.008 < x ≤ 0.012	NT	NT	EI/M	NT	EI/M	EI/M	EI/M	EI/M				
	0.012 < x ≤ 0.016	NT	NT	EI/M	NT	EI/M							
	0.016 < x ≤ 0.020	EI/M	EI/M	EI	EI								
	0.020 < x ≤ 0.024	EI/M	EI	EI	Investigate to Determine Appropriate Repair ^(4, 5) or Rejection						Reject and Replace		
	0.024 < x ≤ 0.028	EI/M	EI										
	x > 0.028												
Over Land or More Than 20 feet AMHW	Crack Width	SA	MA	EA	SA	MA	EA	SA	MA	EA	SA	MA	EA
	x ≤ 0.004	NT	NT	NT	NT	NT	NT	NT	NT	NT			
	0.004 < x ≤ 0.008	NT	NT	NT	NT	NT	EI/M	NT	EI/M	EI/M			
	0.008 < x ≤ 0.012	NT	NT	EI/M	NT	NT	EI/M	EI/M	EI/M				
	0.012 < x ≤ 0.016	NT	NT	EI/M	NT	EI/M							
	0.016 < x ≤ 0.020	NT	EI/M	EI	EI/M								
	0.020 < x ≤ 0.024	NT	EI/M	EI	Investigate to Determine Appropriate Repair ^(4, 5) or Rejection						Reject and Replace		
	0.024 < x ≤ 0.028	NT	EI/M										
	x > 0.028												

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