Development and deployment of concrete pavement performance



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Acceptance Quality Characteristics Delivered to QA and tested in their lab 5.0 Testing by independent assurance 4 random locations per sublot – 6 disks 12.50 100.0 5 joints at random location per sublot ┢ 95.0 Data used to calculate effective dowel diameter 90.0 1.35 Measured by high speed profiler Use IRI in right and left wheel path 50

The cylinders cast by the contractor one time tipped over and hardened outside of the mold

The construction schedule was extended and cold weather paving required changes to mixes and ACQ requirements



Steven Gill

Manager of Mate Illinois Tollway





Sometimes the pavement was dirty when the contractor called to request smoothness testing.



e re	la	te	ds	spe	ec	ifi	ca	ti	ons
en erials, Pave	ements	and C	onstruc	tion Re	search				linois llway
Paveme Desig	ent n Performa iteria	Spe Plann	ecificat ing	ion De	evelop Cs and alues	ment	filen As-Cor	PAVESP gned C n AQC v nstruct	EC onstructed vs. ed AQC
τ τ	A DESTACLO		s, Col an	Design Const Time mpare As	s-Built signed	M&R Plan	Distress & IRI Pave Mo Per	esigned As-C ement Age odel ME formar	Constructed
Incorporate Into Specifi Project Lett	e Pay Ta cations ting or perf only pay. A paving	bles & forma smoo A lot 2 ; that	Pay Sau nce in othness 2 was c was re	vement mpling, first co s being created quired	Constru and Tes onstru g diffic d to ac d do to	iction, ting iction cult to comr	Inc Dis Seaso achie nodat	entive sincentive on wa eve e col n the	e and tive Pay
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			20:	15 Results	5				
			Lot 1 Qua	ality Pay Fa	actors by	Type and	Contrac	t 	
Air Content	A 100 7	B	101.2	D	⊢	F	G	H	101.0
Strength	99.3	99.8	99.8	96.8	102.2	100.2	102.0	100.1	100.6
I NICKNESS Dowel Diam.	101.2 99.9	101.3 99.9	101.1	101.0 100.0	100.6 99.9	100.2 99.9	101.2 99.9	101.1	100.8
Smoothness	98.8	96.9	100.3	97.2	94.2	98.1	96.2	96.0	95.2
Lot 1 Composite	Pav Fact	ש ט.9 סר	102.3	ษ 0.4	y0.3	ສ ສ.ສ	100.3	y1.8	99.6
			Lot 2 Qua	ality Pav F	actors by	Type and	Contract	t	
	Α	В	C	D	E	F	G	Н	
Air Content		101.3	101.2	101.1	101.6	101.4	101.0	101.4	
Dowel Diam.		99.9	100.0	100.0	99.9	99.9	100.0	99.9	
Composite PF		102.3	102.1	102.1	102.5	101.8	101.6	102.0	
2015 Overall Co	onstructio	on Estima	te (11/18)						102.1
2016 was Performa pavemen	s sever nce in t is ge	ral of nprov neral	the sau ed acr ly exce	me co oss th eding	ntract e boai the de	ors an rd. Qu esign.	nd son Jality	ne ne of	ew.
				2016 Resi	ults				
		Α	В	C	D	F		F	G
Air Content		100.9	101.1	100.8	101.4	101	1.1 1	00.7	101.4
Strength		98.5	100.9	101.3	101.8	<u> </u>	1.4 1	02.2	101.9
Dowel Diam.		99.9	101.1	101.0	99.9	<u>, 100</u> 99	. <i>i</i> 1 .8 9	99.8	99.8
Smoothness	_	97.8	99.2	99.4	99.9	97	.5 9	97.7	97.3
Lomposite P		y1.5	102.3	102.5	104.0	v 100	J.Ə 1	U1.2	101.5
2016 Overall	Construe	ction Est	imate (11	/18)					101.9

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PAVESPEC PAVESP	cification Development	ent	/elopm	ion De	cificat	Spe	ent n	Pavemo
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