Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S3 (PG 76-28 OK) Mat'l. Code: asco007
(Material Full Name and Material Code)

Binder - Recycled ID: B2
(Design Type and Design Type ID)

Cummins Const Co P/S # m00556
(Producer/Supplier Name and Producer/Supplier Code)

WS3c00931800300
(Mix ID)

Cummins Const Co #2713 (Coleman, OK) - 300TPH PLANT ID # m00556-11
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
#67 Rock	Dolese Co (Coleman, OK) P/S # m002710302	20
3/8" Chips	Dolese Co (Coleman, OK) P/S # m002710302	15
Blend Sand	TXI Mill Creek Stone Plant P/S # m005253504	20
Scrns.	Dolese Co (Coleman, OK) P/S # m002710302	20
Sand	Alan Ritchey Materials Co (ARMCO) (Yuba, OK) P/S # m006120707	10
Fine R.A.P.	Contractor / Project Site P/S # Contractor	15

Warm Mix Asphalt (WMA) Technology: TEREX (Foaming Process) qual028 Terex Roadbuilding m00801
(Product Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)

Asphalt Cement: Asphaltic Cement Type PG 76-28 OK, acem001, Lion Oil Co. (Muskogee, OK), m00511
(Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)

Requires Form 93-E0 signed by the Department for production use. -Oklahoma D.O.T. Materials-

Sieve Size	Producer/Supplier: Dolese Co (Coleman, OK) P/S # m002710302	Dolese Co (Coleman, OK) P/S # m002710302	TXI Mill Creek Stone Plant P/S # m005253504	Dolese Co (Coleman, OK) P/S # m002710302	Alan Ritchey Materials Co (ARMCO) (Yuba, OK) P/S # m006120707	Contractor / Project Site P/S # Contractor			Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
	#67 Rock	3/8" Chips	Blend Sand	Scrns.	Sand	Fine R.A.P.							
1 in (25 mm)	100	100	100	100	100	100			100	**100**	100	100	0
3/4 in (19 mm)	98	100	100	100	100	100			100	**100**	93	100	7
1/2 in (12.5 mm)	51	100	100	100	100	100			90	**90**	83	97	7
3/8 in (9.5 mm)	31	95	100	100	100	94			85	**85**	78	92	7
#4 (4.75 mm)	3	19	99	89	100	71			62	**62**	55	69	7
#8 (2.36 mm)	1	6	82	55	100	45			45	**45**	40	50	5
#16 (1.18 mm)	1	4	54	36	99	32			34	**34**	30	38	4
#30 (.600 mm)	1	2	30	27	99	25			26	**26**	22	30	4
#50 (.300 mm)	1	1	12	20	85	19			18	**18**	14	22	4
#100 (.150 mm)	1	1	4	15	33	13			9	**9**	6	12	3
#200 (.075 mm)	0.6	0.9	1.8	12.5	9.2	6.2			5.0	**5.0**	3.0	7.0	2
AC Content %						5.2			4.3	**4.3**	3.9	4.7	0.4

Warm Mix Asphalt (WMA) Additive % 2.0

	°F (°C)	Required
Mix temperature @ discharge from mixer:	275 (135)	± 20 °F (± 10 °C)
Optimum roadway compaction temperature:	260 (127)	
Laboratory mixing temperature:	300 (149)	
Laboratory compaction temperature:	300 (149)	

Tests on Asphalt Cement	Found
Specific Gravity @ 77 °F	1.0100

Requires Form 93-E0 signed by the Department for production use. -Oklahoma D.O.T. Materials-

Tests on Compressed Mixtures (@ Design AC)	# Gyr.	% Density of Gmm	% Density Required
Nini	8	88.5	85.5 - 89.0
Ndes	80		96.0

Tests on Aggregates		Required		Units
Durability Index	67	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated		10	max.	%
Fractured Faces	100/100	98/95	min.	%
Insoluble Residue	12.6	N/A		%
LA Abrasion	20.7	40	max.	%
Micro-Deval	12.4	25	max.	%
Permeability	9.3	12.5	max.	10^{-5}cm/s
Sand Equivalent	68	50	min.	%
Pba	0.16			
IOC	0.81			%
Gse	2.753			
Gsb	2.741			
Specimen Weight	4900			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required Design / Field	% VMA	% VMA Required Design / Field	% VFA	% VFA Required
3.8	2.449	2.584	94.8	96.0 / 94.5 - 97.4	14.0	13.5 / 13.0	62.9	70 - 75
4.3	2.460	2.563	96.0		14.1		71.6	
4.8	2.491	2.542	98.0		13.5		85.2	

Dust Prop.
1.4
1.2
1.1

Dust Prop. Req. 0.6 - 1.6

ITS (PSI) 179 75 min.
TSR 0.86 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 112.7 @ 4.3 % Asphalt Cement
3.5 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 8.52 12.50 max. @ 20,000 cycles

MEETS SPECIFICATION REQUIREMENTS PER SPECIAL PROVISION 708-26(a-f) 09

Comments: Similar to WS3qc0101297600 (Plant ID Change)

Last Modified By: Suitor, Kevin ksuitor
(User Name and User ID)

Date: 2/14/2018
(mm/dd/yyyy)