Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S4 (PG 76-28 OK) Mat'l. Code: asco010
(Material Full Name and Material Code)

Insoluble ID: I1
(Design Type and Design Type ID)

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

S4qc0101300300
(Mix ID)

Cummins Const Co #2 (Portable) - 400TPH PLANT ID # m00556-08
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
5/8" Chips	Martin-Marietta (Snyder, OK) P/S # m002323802	25
3/8" Chips	Dolese Co (Cooperton, OK) P/S # m002723801	18
Man. Sand	Martin-Marietta (Snyder, OK) P/S # m002323802	17
Scrns.	Dolese Co (Cooperton, OK) P/S # m002723801	25
Sand (Unlisted Source)	T&G Const. (Headrick, OK)	15

Asphalt Cement: Asphaltic Cement Type PG 76-28 OK, acem001, Valero (Ardmore, OK), m00352
(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	Martin-Marietta (Snyder, OK) P/S # m002323802	Dolese Co (Cooperton, OK) P/S # m002723801	Martin-Marietta (Snyder, OK) P/S # m002323802	Dolese Co (Cooperton, OK) P/S # m002723801	T&G Const. (Headrick, OK)				Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
	5/8" Chips	3/8" Chips	Man. Sand	Scrns.	Sand (Unlisted Source)								
3/4 in (19 mm)	100	100	100	100	100				100	**100**	100	100	0
1/2 in (12.5 mm)	93	100	100	100	100				98	**98**	91	100	7
3/8 in (9.5 mm)	60	95	100	100	100				89	**89**	82	96	7
#4 (4.75 mm)	8	12	95	91	100				58	**58**	51	65	7
#8 (2.36 mm)	2	3	70	59	99				43	**43**	38	48	5
#16 (1.18 mm)	2	2	47	37	96				33	**33**	29	37	4
#30 (.600 mm)	2	1	25	25	85				24	**24**	20	28	4
#50 (.300 mm)	1	1	14	18	42				14	**14**	10	18	4
#100 (.150 mm)	1	1	8	14	6				6	**6**	3	9	3
#200 (.075 mm)	0.9	1.3	4.0	12.5	1.1				4.4	**4.4**	2.4	6.4	2
AC Content %									4.9	**4.9**	4.5	5.3	0.4

	°F (°C)	Required
Mix temperature @ discharge from mixer:	325 (163)	± 20 °F (± 10 °C)
Optimum roadway compaction temperature:	305 (152)	
Laboratory mixing temperature:	325 (163)	
Laboratory compaction temperature:	300 (149)	

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

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Tests on Compressed Mixtures (@ Design AC)

	# Gyr.	% Density of Gmm	% Density Required
Nini	8	89.0	85.5 - 89.0
Ndes	80		96.0

Tests on Aggregates		Required		Units
Durability Index	81	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated		10	max.	%
Fractured Faces	100/100	98/95	min.	%
Insoluble Residue	53.7	40	min.	%
LA Abrasion	24.7	40	max.	%
Micro-Deval	10.7	25	max.	%
Permeability	5.2	12.5	max.	10^{-5}cm/s
Sand Equivalent	79	50	min.	%
IOC	0.28			%
Gse	2.668			
Gsb	2.644			
Specimen Weight	4800			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required Design / Field	% VMA	% VMA Required Design / Field	% VFA	% VFA Required
4.4	2.344	2.488	94.2	96.0 / 94.5 - 97.4	15.2	14.5 / 14.0	61.8	72 - 77
4.9	2.370	2.469	96.0		14.8		73.0	
5.4	2.380	2.451	97.1		14.8		80.4	

Dust Prop.
1.1
1.0
0.9

Dust Prop. Req. 0.6 - 1.6

ITS (PSI) 125.1 75 min.

TSR 0.86 0.80 / 0.75 min. (Design / Field)

Compacted Wt. (lbs/sy/1" thick) = 108.6 @ 4.9 % Asphalt Cement

Hamburg Rut Test Depth (mm) 3.00 12.50 max. @ 20,000 cycles

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

Comments:

Last Modified By: Schratwieser, Edward P. eschratw
(User Name and User ID)

Date: 2/28/2013
(mm/dd/yyyy)