Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S4 (PG 64-22 OK) Mat'l. Code: asco012
(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)

S4qc0101692600
(Mix ID)

Cummins Const Co (Woodward, OK) - 12000 lb Batch PLANT ID # m00556-14
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
5/8" Chips	Dolese Co (Cooperton, OK) P/S # m002723801	30
'D' Rock	Martin-Marietta (Snyder, OK) P/S # m002323802	15
Man. Sand	Martin-Marietta (Snyder, OK) P/S # m002323802	25
Scrns.	Dolese Co (Cooperton, OK) P/S # m002723801	15
Sand (Unlisted Source)	Loomis Sand (Cleo Springs, OK)	15

Asphalt Cement: Asphaltic Cement Type PG 64-22 OK, acem003, Coastal Energy (Clinton, OK), m01042
(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	Dolese Co (Cooperton, OK) P/S # m002723801	Martin-Marietta (Snyder, OK) P/S # m002323802	Martin-Marietta (Snyder, OK) P/S # m002323802	Dolese Co (Cooperton, OK) P/S # m002723801	Loomis Sand (Cleo Springs, OK)				Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
	5/8" Chips	'D' Rock	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)	98	99	100	100	100				99	99	92	100	7
3/8 in (9.5 mm)	57	82	100	100	100				84	84	77	91	7
#4 (4.75 mm)	3	20	95	91	100				56	56	49	63	7
#8 (2.36 mm)	2	4	70	59	100				43	43	38	48	5
#16 (1.18 mm)	1	2	47	37	100				33	33	29	37	4
#30 (.600 mm)	1	1	25	25	100				25	25	21	29	4
#50 (.300 mm)	1	1	14	20	80				19	19	15	23	4
#100 (.150 mm)	1	1	8	15	19				8	8	5	11	3
#200 (.075 mm)	0.9	1.1	4.0	12.5	4.5				4.0	4.0	2.0	6.0	2
AC Content %									4.9	4.9	4.5	5.3	0.4

	°F (°C)	Required
Mix temperature @ discharge from mixer:	305 (152)	± 20 °F (± 10 °C)
Optimum roadway compaction temperature:	290 (143)	
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	6	90.1	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates		Required		Units
Durability Index	80	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated	0	10	max.	%
Fractured Faces	100/100	85/80	min.	%
Insoluble Residue	39	30	min.	%
LA Abrasion	26	40	max.	%
Micro-Deval	9.8	N/A		%
Permeability	0.6	12.5	max.	10^{-5}cm/s
Sand Equivalent	59	40	min.	%
IOC	0.24			%
Gse	2.681			
Gsb	2.649			
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	2.327	2.499	93.1		16.0		56.9	
4.9	2.381	2.480	96.0	96.0 / 94.5 - 97.4	14.5	14.5 / 14.0	72.4	72 - 77
5.4	2.397	2.461	97.4		14.4		81.9	

Dust Prop.	Dust Prop. Req.
1.0	
0.9	0.6 - 1.6
0.8	

ITS (PSI) 106.8 N/A min.
TSR 0.86 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 109.1 @ 4.9 % Asphalt Cement

Hamburg Rut Test Depth (mm) 4.40 #N/A

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

Comments:

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

Date: 3/14/2018
(mm/dd/yyyy)