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)

S4qc0101602600
(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, Asphalt Terminals and Transp LLC (Muskogee, OK), m00783
(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-

Producer/Supplier:	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)								
Sieve Size	**5/8" Chips**	**'D' Rock**	**Man. Sand**	**Scrns.**	**Sand (Unlisted Source)**				**Comb. Agg.**	***JMF***	***Min.***	***Max.***	***% Tol. (±)***
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 12.50 max. @ 10,000 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: 9/22/2016
(mm/dd/yyyy)