Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S4 (PG 70-28 OK) Mat'l. Code: asco011
(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)

S4qc0101683100
(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	20
'D' Rock	Martin-Marietta (Snyder, OK) P/S # m002323802	20
Man. Sand	Martin-Marietta (Snyder, OK) P/S # m002323802	25
Scrns.	Dolese Co (Cooperton, OK) P/S # m002723801	20
Sand (Unlisted Source)	Loomis Sand (Cleo Springs, OK)	15

Asphalt Cement: Asphaltic Cement Type PG 70-28 OK, acem002, Lion Oil Frontier (Muskogee, OK), m01021
(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)	90	100	100	100	100				98	**98**	91	100	7
3/8 in (9.5 mm)	39	92	100	100	100				86	**86**	79	93	7
#4 (4.75 mm)	4	30	95	91	100				64	**64**	57	71	7
#8 (2.36 mm)	2	6	70	59	100				46	**46**	41	51	5
#16 (1.18 mm)	2	2	41	37	100				33	**33**	29	37	4
#30 (.600 mm)	1	1	22	25	100				26	**26**	22	30	4
#50 (.300 mm)	1	1	10	18	80				19	**19**	15	23	4
#100 (.150 mm)	1	1	3	14	19				7	**7**	4	10	3
#200 (.075 mm)	0.9	1.3	2.6	12.1	4.5				4.2	**4.2**	2.2	6.2	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

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	7	89.5	85.5 - 90.5
Ndes	65		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	95/90	min.	%
Insoluble Residue	49	40	min.	%
LA Abrasion	26	40	max.	%
Micro-Deval	9.8	N/A		%
Permeability	7.4	12.5	max.	10^{-5}cm/s
Sand Equivalent	75	45	min.	%
IOC	0.17			%
Gse	2.661			
Gsb	2.635			
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	2.482	94.4		15.0		62.7	
4.9	2.366	2.464	96.0	96.0 / 94.5 - 97.4	14.6	14.5 / 14.0	72.6	72 - 77
5.4	2.414	2.445	98.7		13.3		90.2	

Dust Prop.
1.1
0.9
0.8

Dust Prop. Req.: 0.6 - 1.6

ITS (PSI) 99.8 N/A min.
TSR 0.83 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 108.4 @ 4.9 % Asphalt Cement

Hamburg Rut Test Depth (mm) 4.82 #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: 1/5/2018
(mm/dd/yyyy)