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)

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

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

S4qc0101300700
(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
3/8" Chips	Dolese Co (Cooperton, OK) P/S # m002723801	10
Man. Sand	Martin-Marietta (Snyder, OK) P/S # m002323802	15
Scrns.	Dolese Co (Cooperton, OK) P/S # m002723801	20
Sand	Kline Sand (Camargo, OK) P/S # m005932206	10
Fine R.A.P.	Contractor / Project Site P/S # Contractor	25

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-

Sieve Size	Producer/Supplier: Dolese Co (Cooperton, OK) P/S # m002723801 — 5/8" Chips	Dolese Co (Cooperton, OK) P/S # m002723801 — 3/8" Chips	Martin-Marietta (Snyder, OK) P/S # m00232802 — Man. Sand	Dolese Co (Cooperton, OK) P/S # m002723801 — Scrns.	Kline Sand (Camargo, OK) P/S # m005932206 — Sand	Contractor / Project Site P/S # Contractor — Fine R.A.P.			Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
3/4 in (19 mm)	100	100	100	100	100	100			100	**100**	100	100	0
1/2 in (12.5 mm)	98	100	100	100	100	97			99	**99**	92	100	7
3/8 in (9.5 mm)	57	95	100	100	100	85			87	**87**	80	94	7
#4 (4.75 mm)	3	12	95	91	100	75			63	**63**	56	70	7
#8 (2.36 mm)	2	3	70	59	100	55			47	**47**	42	52	5
#16 (1.18 mm)	1	2	47	37	100	42			35	**35**	31	39	4
#30 (.600 mm)	1	1	25	25	94	30			26	**26**	22	30	4
#50 (.300 mm)	1	1	14	20	47	20			16	**16**	12	20	4
#100 (.150 mm)	1	1	8	15	3	15			9	**9**	6	12	3
#200 (.075 mm)	0.9	1.3	4.0	12.5	2.2	9.5			6.0	**6.0**	4.0	8.0	2
AC Content %						4.0			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	89.3	85.5 - 91.5
Ndes	50		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	85/80	min.	%
Insoluble Residue	11.5	N/A		%
LA Abrasion	24.7	40	max.	%
Micro-Deval	10.7	N/A		%
Permeability	2.9	12.5	max.	10^{-5}cm/s
Sand Equivalent	78	40	min.	%
IOC	0.25			%
Gse	2.698			
Gsb	2.665			
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	2.355	2.513	93.7	96.0 / 94.5 - 97.4	15.5	14.5 / 14.0	59.4	72 - 77
4.9	2.395	2.494	96.0		14.5		72.4	
5.4	2.408	2.475	97.3		14.5		81.4	

Dust Prop.
1.5
1.3
1.2

Dust Prop. Req. 0.6 - 1.6

ITS (PSI) 246.8 N/A min.
TSR 0.86 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 109.7 @ 4.9 % Asphalt Cement
3.9 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 1.40 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: 3/13/2013
(mm/dd/yyyy)