



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)
 Cummins Const Co P/S # m00556
 (Producer/Supplier Name and Producer/Supplier Code)
 Cummins Const Co (Coleman, OK) - 300TPH PLANT ID # m00556-11
 (Plant Name and Plant ID)

Insoluble ID: I1
 (Design Type and Design Type ID)
 WS4qc0101450700
 (Mix ID)

Aggregate	Producer/Supplier	% USED
5/8" Chips	Dolese Co (Coleman, OK) P/S # m002710302	25
'D' Rock	Martin-Marietta (Mill Creek, OK) P/S # m002303502	20
Scrns.	Dolese Co (Coleman, OK) P/S # m002710302	20
Man. Sand	TXI Mill Creek Stone Plant P/S # m005253504	20
Sand (Unlisted Source)	Cardinal Sand (Coleman, OK)	15
Warm Mix Asphalt (WMA) Technology: TEREX (Foaming Process) qual028 Terex Roadbuilding m00801 (Product Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		
Asphalt Cement: Asphaltic Cement Type PG 64-22 OK, acem003, Lion Oil Frontier (Muskogee, OK), m01021 (Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		

Sieve Size	Producer/Supplier:						Comb. Agg.	% Tol. (±)			
	5/8" Chips	'D' Rock	Scrns.	Man. Sand	Sand (Unlisted Source)			JMF	Min.	Max.	
3/4 in (19 mm)	100	100	100	100	100		100	100	100	100	0
1/2 in (12.5 mm)	94	100	100	100	100		99	99	92	100	7
3/8 in (9.5 mm)	67	92	100	100	100		90	90	83	97	7
#4 (4.75 mm)	7	29	89	99	100		60	60	53	67	7
#8 (2.36 mm)	2	6	55	82	100		44	44	39	49	5
#16 (1.18 mm)	1	3	36	54	99		34	34	30	38	4
#30 (.600 mm)	1	2	27	30	99		27	27	23	31	4
#50 (.300 mm)	1	1	20	12	85		20	20	16	24	4
#100 (.150 mm)	1	1	15	4	33		9	9	6	12	3
#200 (.075 mm)	1.2	0.4	12.5	1.8	9.2		4.6	4.6	2.6	6.6	2
AC Content %							4.9	4.9	4.5	5.3	0.4

Requires Form 93-E0 signed by the Department for production use. -Oklahoma D.O.T. Materials-

Warm Mix Asphalt (WMA) Additive % 2.0

°F (°C) Required
 Mix temperature @ discharge from mixer: 275 (135) ± 20 °F (± 10 °C)
 Optimum roadway compaction temperature: 260 (127)
 Laboratory mixing temperature: 300 (149)
 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	88.9	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates	Required	Units
Durability Index	67	40 min. %
F.A.A. %U		N/A %
Flat and Elongated	10	max. %
Fractured Faces	100/100	85/80 min. %
Insoluble Residue	42.3	30 min. %
LA Abrasion	23	40 max. %
Micro-Deval	12.4	N/A %
Permeability	2.7	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	70	40 min. %
Pba	0.5	
IOC	0.71	%
Gse	2.766	
Gsb	2.729	
Specimen Weight	4900	g

Tests on Compressed Mixtures							
%AC	Gmb	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA
4.4	2.418	2.569	94.1	Design / Field	15.3	Design / Field	61.4
4.9	2.446	2.549	96.0	96.0 / 94.5 - 97.4	14.8	14.5 / 14.0	73.0
5.4	2.490	2.529	98.5		13.7		89.1

ITS (PSI) 206.7 N/A min.
 TSR 0.80 0.80 / 0.75 min. (Design / Field)
 Compacted Wt. (lbs/sy/1" thick) = 112.1 @ 4.9 % Asphalt Cement

Dust Prop.	Dust Prop. Req.
1.2	0.6 - 1.6
1.0	
0.9	

Hamburg Rut Test Depth (mm) 5.66 #N/A

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

Comments:

Last Modified By: McComack, Hunter J. hmccomac
 (User Name and User ID)

Date: 11/2/2018
 (mm/dd/yyyy)