



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)

Haskell Lemon Const Co (Asphalt) P/S # m00428
 (Producer/Supplier Name and Producer/Supplier Code)

WS4qc0381590100
 (Mix ID)

Haskell Lemon (Shawnee, OK) - 300TPH PLANT ID # m00428-06
 (Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
5/8" Chips	Dolese Co (Davis, OK) P/S # m002745002	27
C-33 Scrns.	Martin-Marietta (Mill Creek, OK) P/S # m002303502	21
Man. Sand	Martin-Marietta (Davis, OK) P/S # m002285005	17
Sand	General Materials Inc (Oklahoma City, OK) P/S # m009215515	10
Fine R.A.P.	Contractor / Project Site P/S # Contractor	25
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 Co. (Muskogee, OK), m00511 (Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		

Producer/Supplier:	Dolese Co (Davis, OK) P/S # m002745002	Martin-Marietta (Mill Creek, OK) P/S # m002303502	Martin-Marietta (Davis, OK) P/S # m002285005	General Materials Inc (Oklahoma City, OK) P/S # m009215515	Contractor / Project Site P/S # Contractor	Requires Form 93-E0 signed by the Department for production use. -Oklahoma D.O.T. Materials-				
	5/8" Chips	C-33 Scrns.	Man. Sand	Sand	Fine R.A.P.	Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
Sieve Size										
3/4 in (19 mm)	100	100	100	100	100	100	100	100	100	0
1/2 in (12.5 mm)	91	100	100	100	100	98	98	91	100	7
3/8 in (9.5 mm)	60	100	100	100	100	89	89	82	96	7
#4 (4.75 mm)	5	99	93	100	93	71	71	64	78	7
#8 (2.36 mm)	3	80	56	99	72	55	55	50	60	5
#16 (1.18 mm)	3	48	31	98	53	39	39	35	43	4
#30 (.600 mm)	2	25	19	94	43	29	29	25	33	4
#50 (.300 mm)	2	8	11	74	32	19	19	15	23	4
#100 (.150 mm)	1	3	7	25	21	10	10	7	13	3
#200 (.075 mm)	1.0	1.6	4.0	1.3	12.7	4.6	4.6	2.6	6.6	2
AC Content %					5.3	4.8	4.8	4.4	5.2	0.4

Warm Mix Asphalt (WMA) Additive %

1.5

	°F (°C)	Required
Mix temperature @ discharge from mixer:	275 (135)	± 20 °F (± 10 °C)
Optimum roadway compaction temperature:	260 (127)	
Laboratory mixing temperature:	325 (163)	
Laboratory compaction temperature:	300 (149)	

Tests on Aggregates	Required	Units
Durability Index	75	40 min. %
F.A.A. %U		N/A %
Flat and Elongated	0	10 max. %
Fractured Faces	100/100	85/80 min. %
Insoluble Residue		N/A %
LA Abrasion	27	40 max. %
Micro-Deval	16.2	N/A %
Permeability	0.6	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	82	40 min. %
Pba	0.44	
IOC	0.22	%
Gse	2.680	
Gsb	2.649	
Specimen Weight	4845	g

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	90.5	85.5 - 91.5
Ndes	50		96.0

Tests on Compressed Mixtures								
%AC	Gmb	Gmm	% Density		% VMA	% VMA Required		% VFA
			of Gmm	% Density Required		Design / Field	Design / Field	
4.3	2.359	2.502	94.3	Design / Field	14.8	Design / Field	61.5	% VFA Required
4.8	2.380	2.483	95.9	96.0 / 94.5 - 97.4	14.5	14.5 / 14.0	71.7	72 - 77
5.3	2.399	2.464	97.4		14.2		81.7	

Dust Prop.		ITS (PSI)	119	N/A min.
1.2	Dust Prop. Req.	TSR	0.82	0.80 / 0.75 min. (Design / Field)
1.0	0.6 - 1.6	Compacted Wt. (lbs/sy/1" thick) = 109.2 @ 4.8 % Asphalt Cement		
0.9		3.5 % New Asphalt Cement		

Hamburg Rut Test Depth (mm) 4.49 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: 4/28/2015
 (mm/dd/yyyy)