Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S3 (PG 64-22 OK) Mat'l. Code: asco009
(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)

WS3qc0381780100
(Mix ID)

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

Aggregate	Producer/Supplier	% USED
1" Rock	Dolese Co (Davis, OK) P/S # m002745002	26
C-33 Scrns.	Martin-Marietta (Mill Creek, OK) P/S # m002303502	19
Man. Sand	Martin-Marietta (Davis, OK) P/S # m002285005	20
Sand (Unlisted Source)	General Materials 63rd Plant	10
Coarse 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)

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

Sieve Size	Producer/Supplier: Dolese Co (Davis, OK) P/S # m002745002 — 1" Rock	Martin-Marietta (Mill Creek, OK) P/S # m002303502 — C-33 Scrns.	Martin-Marietta (Davis, OK) P/S # m002285005 — Man. Sand	General Materials 63rd Plant — Sand (Unlisted Source)	Contractor / Project Site P/S # Contractor — Coarse R.A.P.				Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
1 in (25 mm)	100	100	100	100	100				100	**100**	100	100	0
3/4 in (19 mm)	95	100	100	100	100				99	**99**	92	100	7
1/2 in (12.5 mm)	55	100	100	100	95				87	**87**	80	94	7
3/8 in (9.5 mm)	35	100	100	100	86				80	**80**	73	87	7
#4 (4.75 mm)	4	97	92	100	52				61	**61**	54	68	7
#8 (2.36 mm)	1	78	52	99	37				45	**45**	40	50	5
#16 (1.18 mm)	1	49	28	95	29				32	**32**	28	36	4
#30 (.600 mm)	1	27	16	83	24				23	**23**	19	27	4
#50 (.300 mm)	1	11	9	55	18				14	**14**	10	18	4
#100 (.150 mm)	1	3	5	11	11				6	**6**	3	9	3
#200 (.075 mm)	0.7	1.8	3.3	1.6	6.2				2.9	**2.9**	0.9	4.9	2
AC Content %					3.6				4.4	**4.4**	4.0	4.8	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 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	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	10.4	12.5	max.	10^{-5}cm/s
Sand Equivalent	83	40	min.	%
Pba	0.48			
IOC	0.29			%
Gse	2.689			
Gsb	2.655			
Specimen Weight	4890			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA	% VFA Required
3.8	2.380	2.529	94.1	Design / Field	13.8	Design / Field	57.2	70 - 75
4.3	2.400	2.510	95.6	96.0 / 94.5 - 97.4	13.5	13.5 / 13.0	67.4	
4.8	2.419	2.490	97.1		13.3		78.2	

Dust Prop.	Dust Prop. Req.
0.9	0.6 - 1.6
0.8	
0.7	

ITS (PSI) 115.9 N/A min.
TSR 0.83 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 110.2 @ 4.4 % Asphalt Cement
3.5 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 2.74 #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: 3/13/2018
(mm/dd/yyyy)