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)

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

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

WS4qc0381380500
(Mix ID)

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

Aggregate	Producer/Supplier	% USED
5/8" Chips	Hanson Aggregates, WRP Inc (Davis, OK) P/S # m001985008	35
C-33 Scrns.	Martin-Marietta (Mill Creek, OK) P/S # m002303502	22
Scrns.	Dolese Co (Davis, OK) P/S # m002745002	28
Sand	General Materials Inc (Oklahoma City, OK) P/S # m009215515	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, Valero (Ardmore, OK), m00352
(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: Hanson Aggregates, WRP Inc (Davis, OK) P/S # m001985008	Martin-Marietta (Mill Creek, OK) P/S # m002303502	Dolese Co (Davis, OK) P/S # m002745002	General Materials Inc (Oklahoma City, OK) P/S # m009215515					Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
	5/8" Chips	C-33 Scrns.	Scrns.	Sand									
3/4 in (19 mm)	100	100	100	100					100	100	100	100	0
1/2 in (12.5 mm)	91	100	100	100					97	97	90	100	7
3/8 in (9.5 mm)	70	100	100	100					90	90	83	97	7
#4 (4.75 mm)	34	99	86	100					73	73	66	80	7
#8 (2.36 mm)	10	80	53	99					51	51	46	56	5
#16 (1.18 mm)	8	48	34	98					38	38	34	42	4
#30 (.600 mm)	5	25	24	94					28	28	24	32	4
#50 (.300 mm)	4	8	17	74					19	19	15	23	4
#100 (.150 mm)	3	3	14	25					9	9	6	12	3
#200 (.075 mm)	2.8	1.6	11.3	1.2					4.7	4.7	2.7	6.7	2
AC Content %									5.2	5.2	4.8	5.6	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	90.4	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	86.6	30	min.	%
LA Abrasion	25.3	40	max.	%
Micro-Deval	16.2	N/A		%
Permeability	7.5	12.5	max.	10^{-5}cm/s
Sand Equivalent	85	40	min.	%
Pba	0.78			
IOC	0.42			%
Gse	2.695			
Gsb	2.640			
Specimen Weight	4840			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required Design / Field	% VMA	% VMA Required Design / Field	% VFA	% VFA Required
4.3	2.344	2.515	93.2	96.0 / 94.5 - 97.4	15.0	14.5 / 14.0	54.7	72 - 77
4.8	2.366	2.495	94.8		14.7		64.6	
5.3	2.384	2.476	96.3		14.5		74.5	

Dust Prop.	Dust Prop. Req.
1.3	0.6 - 1.6
1.1	
1.0	

ITS (PSI) 105 N/A min.
TSR 0.80 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 109.1 @ 5.2 % Asphalt Cement

Hamburg Rut Test Depth (mm) 5.28 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: 8/6/2014
(mm/dd/yyyy)