Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S4 (PG 70-28 OK) Mat'l. Code: asco011
(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)

S4qc0381300700
(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	37
C-33 Scrns.	Martin-Marietta (Mill Creek, OK) P/S # m002303502	27
Scrns.	Dolese Co (Davis, OK) P/S # m002745002	22
Sand	General Materials Inc (Oklahoma City, OK) P/S # m009215515	14

Asphalt Cement: Asphaltic Cement Type PG 70-28 OK, acem002, 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: Hanson Aggregates, WRP Inc (Davis, OK) P/S # m001985008 — 5/8" Chips	C-33 Scrns. — Martin-Marietta (Mill Creek, OK) P/S # m002303502	Scrns. — Dolese Co (Davis, OK) P/S # m002745002	Sand — General Materials Inc (Oklahoma City, OK) P/S # m009215515					Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
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					89	**89**	82	96	7
#4 (4.75 mm)	34	99	86	100					72	**72**	65	79	7
#8 (2.36 mm)	10	80	53	99					51	**51**	46	56	5
#16 (1.18 mm)	8	48	34	98					37	**37**	33	41	4
#30 (.600 mm)	5	25	24	94					27	**27**	23	31	4
#50 (.300 mm)	4	8	17	74					18	**18**	14	22	4
#100 (.150 mm)	3	3	14	25					9	**9**	6	12	3
#200 (.075 mm)	2.8	1.6	11.3	1.2					4.1	**4.1**	2.1	6.1	2
AC Content %									5.0	**5.0**	4.6	5.4	0.4

	°F (°C)	Required
Mix temperature @ discharge from mixer:	325 (163)	± 20 °F (± 10 °C)
Optimum roadway compaction temperature:	305 (152)	
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	7	89.6	85.5 - 90.5
Ndes	65		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	95/90	min.	%
Insoluble Residue	72.4	40	min.	%
LA Abrasion	25.3	40	max.	%
Micro-Deval	16.2	N/A		%
Permeability	3.9	12.5	max.	10^{-5}cm/s
Sand Equivalent	79	45	min.	%
IOC	0.47			%
Gse	2.698			
Gsb	2.652			
Specimen Weight	4860			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	2.362	2.517	93.8	96.0 / 94.5 - 97.4	14.8	14.5 / 14.0	58.1	72 - 77
4.8	2.381	2.498	95.3		14.5		67.6	
5.3	2.399	2.478	96.8		14.3		77.6	

Dust Prop.	Dust Prop. Req.
1.1	0.6 - 1.6
1.0	
0.9	

ITS (PSI) 79.7 N/A min.

TSR 0.81 0.80 / 0.75 min. (Design / Field)

Compacted Wt. (lbs/sy/1" thick) = 109.5 @ 5.0 % Asphalt Cement

Hamburg Rut Test Depth (mm) 7.40 12.50 max. @ 15,000 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: 9/5/2013
(mm/dd/yyyy)