



Oklahoma Department of Transportation Mix Design Report

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

Insoluble ID: I1

(Material Full Name and Material Code)

(Design Type and Design Type ID)

PMI-Silver Star P/S # m00565

WS4pv0261470400

(Producer/Supplier Name and Producer/Supplier Code)

(Mix ID)

PMI-Silver Star (Moore, OK) - 400TPH PLANT ID # m00565-01

(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
5/8" Chips	Hanson Aggregates, WRP Inc (Davis, OK) P/S # m001985008	42
3/16" Scrns.	Hanson Aggregates, WRP Inc (Davis, OK) P/S # m001985008	25
Man. Sand	Martin-Marietta (Davis, OK) P/S # m002285005	18
Sand	General Materials Inc (Oklahoma City, OK) P/S # m009215515	15
Warm Mix Asphalt (WMA) Technology MAXAM (Foaming Process) qual028 Maxam Equipment m00802 (Product Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		
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)		

Sieve Size	Producer/Supplier:				Comb. Agg.	Requirements			% Tol. (±)
	Hanson Aggregates, WRP Inc (Davis, OK) P/S # m001985008	Hanson Aggregates, WRP Inc (Davis, OK) P/S # m001985008	Martin-Marietta (Davis, OK) P/S # m002285005	General Materials Inc (Oklahoma City, OK) P/S # m009215515		JMF	Min.	Max.	
5/8" Chips	100	100	100	100	100	100	100	100	0
3/16" Scrns.	88	100	100	100	95	95	88	100	7
Man. Sand	65	100	100	100	85	85	78	92	7
Sand	17	100	96	100	64	64	57	71	7
	2	81	59	100	47	47	42	52	5
	1	52	31	98	34	34	30	38	4
	1	37	17	91	26	26	22	30	4
	1	23	9	55	16	16	12	20	4
	1	16	5	9	7	7	4	10	3
	0.5	11.5	3.1	2.5	4.0	4.0	2.0	6.0	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:	320 (160)	
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	89.2	85.5 - 90.5
Ndes	65	96.0	96.0

Tests on Aggregates	Required	Units
Durability Index	80	40 min. %
F.A.A. %U	N/A	%
Flat and Elongated	0	10 max. %
Fractured Faces	100/100	95/90 min. %
Insoluble Residue	76.2	40 min. %
LA Abrasion	24	40 max. %
Micro-Deval	9.7	N/A %
Permeability	1.7	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	67	45 min. %
Pba	0.58	
IOC	0.60	%
Gse	2.701	
Gsb	2.660	
Specimen Weight	4870	g

Tests on Compressed Mixtures								
%AC	Gmm	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA	% VFA Required
4.8	2.386	2.500	95.4	Design / Field	14.6	Design / Field	68.5	72 - 77
5.3	2.411	2.481	97.2	96.0 / 94.5 - 97.4	14.2	14.5 / 14.0	80.3	
5.8	2.428	2.462	98.6	14.0			90.0	

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

ITS (PSI) 113.4 N/A min.
 TSR 0.83 0.80 / 0.75 min. (Design / Field)
 Compacted Wt. (lbs/sy/1" thick) = 109.8 @ 4.9 % Asphalt Cement

Hamburg Rut Test Depth (mm) 8.98 #N/A

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

Comments:

Last Modified By: Williams, Bobby Ray bwilli01
 (User Name and User ID)

Date: 6/26/2017
 (mm/dd/yyyy)