



# Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S3 (PG 70-28 OK) Mat'l. Code: asco008  
 (Material Full Name and Material Code)  
 PMI-Silver Star P/S # m00565  
 (Producer/Supplier Name and Producer/Supplier Code)  
 PMI-Silver Star (Moore, OK) - 400TPH PLANT ID # m00565-01  
 (Plant Name and Plant ID)

Binder - Recycled ID: B2  
 (Design Type and Design Type ID)  
 S3pv0261800700  
 (Mix ID)

Aggregate	Producer/Supplier	% USED
#67 Rock	Martin-Marietta (Davis, OK) P/S # m002285005	12
5/8" Chips	Hanson Aggregates, WRP Inc (Davis, OK) P/S # m001985008	30
3/16" Scrns.	Hanson Aggregates, WRP Inc (Davis, OK) P/S # m001985008	16
Man. Sand	Martin-Marietta (Davis, OK) P/S # m002285005	15
Sand	General Materials Inc (Oklahoma City, OK) P/S # m009215515	12
Fine R.A.P.	Contractor / Project Site P/S # Contractor	15
<b>Asphalt Cement:</b> 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)		

Producer/Supplier:	Martin-Marietta (Davis, OK) P/S # m002285005	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	Contractor / Project Site P/S # Contractor			Requires Form 93-E0 signed by the Department for production use. -Oklahoma D.O.T. Materials-				
Sieve Size	#67 Rock	5/8" Chips	3/16" Scrns.	Man. Sand	Sand	Fine R.A.P.			Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
1 in (25 mm)	98	100	100	100	100	100			100	100	100	100	0
3/4 in (19 mm)	82	100	100	100	100	100			98	98	91	100	7
1/2 in (12.5 mm)	54	84	100	100	100	98			89	89	82	96	7
3/8 in (9.5 mm)	31	56	100	100	100	94			78	78	71	85	7
#4 (4.75 mm)	4	9	96	95	100	75			56	56	49	63	7
#8 (2.36 mm)	2	1	60	59	99	55			39	39	34	44	5
#16 (1.18 mm)	2	1	35	33	97	40			29	29	25	33	4
#30 (.600 mm)	2	1	23	18	86	31			22	22	18	26	4
#50 (.300 mm)	1	1	17	10	42	23			13	13	9	17	4
#100 (.150 mm)	1	1	13	6	6	13			6	6	3	9	3
#200 (.075 mm)	1.0	0.8	9.6	3.3	1.1	8.4			3.8	3.8	1.8	5.8	2
AC Content %						5.2			4.7	4.7	4.3	5.1	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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	% Density		
	# Gyr.	of Gmm	% Density Required
Nini	7	89.1	85.5 - 90.5
Ndes	65		96.0

Tests on Aggregates	Required	Units
Contabro	N/A	%
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	52.3	N/A %
LA Abrasion	24	40 max. %
Micro-Deval	9.7	N/A %
Permeability	4	12.5 max. 10 <sup>-5</sup> cm/s
Sand Equivalent	73	45 min. %
IOC	0.25	%
Gse	2.728	
Gsb	2.672	
Specimen Weight	4930	g

Tests on Compressed Mixtures						
%AC	Gmb	Gmm	% Density		% VMA	% VFA
			of Gmm	% Density Required		
4.3	2.406	2.542	94.6	Design / Field	13.8	60.9
4.8	2.423	2.522	96.1	96.0 / 94.5 - 97.4	13.7	71.5
5.3	2.439	2.502	97.5		13.6	81.6

	ITS (PSI) 121.6 N/A min.	
	TSR 0.84 0.80 / 0.75 min. (Design / Field)	
	Compacted Wt. (lbs/sy/1" thick) = 111.1 @ 4.7 % Asphalt Cement	
	3.9 % New Asphalt Cement	
Hamburg Rut Test Depth (mm) 2.45 12.50 max. @ 15,000 cycles		

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

Comments: [Empty Box]

Last Modified By: Smith, Jerry D. jsmith (User Name and User ID)

Date: 8/2/2018 (mm/dd/yyyy)