



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)

Emery Sapp & Sons, Inc. P/S # m00907
 (Producer/Supplier Name and Producer/Supplier Code)

Emery Sapp & Sons, Inc.(Joplin, MO) PLANT ID # m00907-01
 (Plant Name and Plant ID)

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

S3pv0441600100
 (Mix ID)

Aggregate	Producer/Supplier	% USED
3/4" Chips	Anchor Stone (Jasper Co.Quarry, Joplin, MO) P/S # m002118301	32
Man. Sand	Anchor Stone (Jasper Co.Quarry, Joplin, MO) P/S # m002118301	19
Scrns.	Anchor Stone (Jasper Co.Quarry, Joplin, MO) P/S # m002118301	12
Sand	Muskogee Sand - West Plant (Muskogee, OK) P/S # m007067309	12
Fine R.A.P.	Contractor / Project Site P/S # Contractor	25
Asphalt Cement: Asphaltic Cement Type PG 64-22 OK, acem003, HollyFrontier (Catoosa, OK), m01028 (Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		

Sieve Size	Producer/Supplier:						Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
	Anchor Stone (Jasper Co. Quarry, Joplin, MO) P/S # m002118301	Anchor Stone (Jasper Co. Quarry, Joplin, MO) P/S # m002118301	Anchor Stone (Jasper Co. Quarry, Joplin, MO) P/S # m002118301	Muskogee Sand - West Plant (Muskogee, OK) P/S # m007067309	Contractor / Project Site P/S # Contractor						
	3/4" Chips	Man. Sand	Scrns.	Sand	Fine R.A.P.						
1 in (25 mm)	100	100	100	100	100		100	100	100	0	
3/4 in (19 mm)	95	100	100	100	100		98	98	91	7	
1/2 in (12.5 mm)	55	100	100	100	100		86	86	79	7	
3/8 in (9.5 mm)	31	100	100	100	96		77	77	70	7	
#4 (4.75 mm)	4	80	98	98	72		58	58	51	7	
#8 (2.36 mm)	3	8	73	93	53		36	36	31	5	
#16 (1.18 mm)	3	5	53	84	41		29	29	25	4	
#30 (.600 mm)	3	4	39	69	32		23	23	19	4	
#50 (.300 mm)	2	4	29	40	23		15	15	11	4	
#100 (.150 mm)	2	4	21	6	16		9	9	6	3	
#200 (.075 mm)	1.5	3.1	15.8	0.9	11.3		5.9	5.9	3.9	2	
AC Content %					5.8		4.9	4.9	4.5	0.4	

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

°F (°C) Required

Mix temperature @ discharge from mixer: 305 (152) ± 20 °F (± 10 °C)

Optimum roadway compaction temperature: 290 (143)

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)			
	%Density		
	# Gvr.	of Gmm	%Density Required
Nini	6	87.7	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates	Required	Units
Contabro	71.0	N/A
Durability Index	71	40 min. %
F.A.A. %U	N/A	%
Flat and Elongated	1	10 max. %
Fractured Faces	100/100	85/80 min. %
Insoluble Residue	12.3	N/A %
LA Abrasion	25.8	40 max. %
Micro-Deval	N/A	%
Permeability	5	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	85	40 min. %
IOC	0.18	%
Gse	2.591	
Gsb	2.560	
Specimen Weight		g

Tests on Compressed Mixtures							
%AC	Gmb	Gmm	%Density		%VMA	%VMA Required	%VFA
			of Gmm	%Density Required			
4.5	2.309	2.420	95.4	Design / Field	13.9	Design / Field	66.9
5.0	2.331	2.403	97.0	96.0 / 94.5 - 97.4	13.5	13.5 / 13.0	77.8
5.5	2.364	2.386	99.1		12.7		70 - 75
							92.9

ITS (PSI) 115.9 N/A min.
 TSR 0.88 0.80 / 0.75 min. (Design / Field)

Dust Prop. Dust Prop. Req.

1.5 0.6 - 1.6

1.3

1.2

Compacted Wt. (lbs/sy/1" thick) = 105.9 @ 4.9 % Asphalt Cement
 3.4 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 3.00 12.50 max. @ 10,000 cycles

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

Comments:

Last Modified By: Caskey, Katelyn kcaskey Date: 6/5/2020
 (User Name and User ID) (mm/dd/yyyy)