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)

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

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

S4pv0441800200
(Mix ID)

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

Aggregate	Producer/Supplier	% USED
3/4" Chips	Anchor Stone (Jasper Co.Quarry, Joplin, MO) P/S # m002118301	13
1/2" Chips	Anchor Stone (Jasper Co.Quarry, Joplin, MO) P/S # m002118301	27
Scrns.	Anchor Stone (Jasper Co.Quarry, Joplin, MO) P/S # m002118301	18
Drag Sand	Mine Chat @ Tri City Area P/S # MineChat	17
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)

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

Producer/Supplier:	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	Mine Chat @ Tri City Area P/S # MineChat	Contractor / Project Site P/S # Contractor							
Sieve Size	3/4" Chips	1/2" Chips	Scrns.	Drag Sand	Fine R.A.P.				Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
3/4 in (19 mm)	100	100	100	100	100				100	100	100	100	0
1/2 in (12.5 mm)	55	100	100	100	100				94	94	87	100	7
3/8 in (9.5 mm)	31	93	100	100	98				89	89	82	96	7
#4 (4.75 mm)	4	28	98	99	82				63	63	56	70	7
#8 (2.36 mm)	3	6	73	77	57				42	42	37	47	5
#16 (1.18 mm)	3	4	53	50	43				30	30	26	34	4
#30 (.600 mm)	3	4	39	29	33				22	22	18	26	4
#50 (.300 mm)	2	3	29	14	25				15	15	11	19	4
#100 (.150 mm)	2	2	21	5	17				10	10	7	13	3
#200 (.075 mm)	1.5	1.8	15.8	2.8	13.1				7.3	7.3	5.3	9.3	2
AC Content %					5.0				5.8	5.8	5.4	6.2	0.4

	°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)

	# Gyr.	% Density of Gmm	% Density Required
Nini	6	88.2	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates		Required		Units
Durability Index	80	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated	2	10	max.	%
Fractured Faces	100/100	85/80	min.	%
Insoluble Residue	14.8	N/A		%
LA Abrasion	29	40	max.	%
Micro-Deval	15.7	N/A		%
Permeability	0.6	12.5	max.	10^{-5}cm/s
Sand Equivalent	78	40	min.	%
IOC	0.25			%
Gse	2.640			
Gsb	2.561			
Specimen Weight	4670			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required Design / Field	% VMA	% VMA Required Design / Field	% VFA	% VFA Required
5.5	2.306	2.425	95.1	96.0 / 94.5 - 97.4	14.9	14.5 / 14.0	67.1	72 - 77
6.0	2.330	2.407	96.8		14.5		77.9	
6.5	2.342	2.389	98.0		14.5		86.2	

Dust Prop.
1.7
1.5
1.4

Dust Prop. Req. 0.6 - 1.6

ITS (PSI) 98.3 N/A min.
TSR 0.82 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 106.2 @ 5.8 % Asphalt Cement
4.5 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 4.02 12.50 max. @ 10,000 cycles

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

Comments:

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

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