Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S3 (PG 76-28 OK) Mat'l. Code: asco007
(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)

S3pv0441700400
(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	35
Man. Sand	Anchor Stone (Jasper Co.Quarry, Joplin, MO) P/S # m002118301	20
Drag Sand	Mine Chat @ Tri City Area P/S # MineChat	18
Sand (Unlisted Source)	Muskogee Sand (Porter, OK)	12
Fine R.A.P.	Contractor / Project Site P/S # Contractor	15

Asphalt Cement: Asphaltic Cement Type PG 76-28 OK, acem001, 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	Mine Chat @ Tri City Area P/S # MineChat	Muskogee Sand (Porter, OK)	Contractor / Project Site P/S # Contractor								
Sieve Size	3/4" Chips	Man. Sand	Drag Sand	Sand (Unlisted Source)	Fine R.A.P.				Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
1 in (25 mm)	100	100	100	100	100				100	100	100	100	0
3/4 in (19 mm)	91	100	100	100	100				97	97	90	100	7
1/2 in (12.5 mm)	62	100	100	100	100				87	87	80	94	7
3/8 in (9.5 mm)	30	100	100	100	97				75	75	68	82	7
#4 (4.75 mm)	5	92	99	98	76				61	61	54	68	7
#8 (2.36 mm)	3	21	77	93	55				39	39	34	44	5
#16 (1.18 mm)	3	9	50	84	42				28	28	24	32	4
#30 (.600 mm)	3	6	29	69	35				21	21	17	25	4
#50 (.300 mm)	3	6	14	40	28				14	14	10	18	4
#100 (.150 mm)	3	5	5	6	21				7	7	4	10	3
#200 (.075 mm)	2.0	4.2	2.8	0.9	16.3				4.6	4.6	2.6	6.6	2
AC Content %					5.6				5.1	5.1	4.7	5.5	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	8	88.6	85.5 - 89.0
Ndes	80		96.0

Tests on Aggregates		Required		Units
Durability Index	71	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated	2	10	max.	%
Fractured Faces	100/100	98/95	min.	%
Insoluble Residue	15.2	N/A		%
LA Abrasion	25.8	40	max.	%
Micro-Deval	17.8	25	max.	%
Permeability	3.6	12.5	max.	10^{-5}cm/s
Sand Equivalent	81	50	min.	%
IOC	0.19			%
Gse	2.616			
Gsb	2.550			
Specimen Weight	4650			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA	% VFA Required
4.5	2.283	2.441	93.5	Design / Field	14.5	Design / Field	55.2	
5.0	2.319	2.423	95.7	96.0 / 94.5 - 97.4	13.6	13.5 / 13.0	68.4	70 - 75
5.5	2.329	2.406	96.8		13.7		76.6	

Dust Prop.
1.3
1.1
1.0

Dust Prop. Req. 0.6 - 1.6

ITS (PSI) 143.6 75 min.
TSR 0.82 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 106.5 @ 5.1 % Asphalt Cement
4.3 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 1.72 12.50 max. @ 20,000 cycles

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: 3/13/2017
(mm/dd/yyyy)