Version: V03.50

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S5 (PG 58-28) Mat'l. Code: asco045
(Material Full Name and Material Code)

Insoluble - Recycled ID: I2
(Design Type and Design Type ID)

Evans & Assoc Const Co P/S # m00557
(Producer/Supplier Name and Producer/Supplier Code)

S5pv0111800100
(Mix ID)

Evans & Associates (Ponca City, OK) - 400TPH PLANT ID # m00557-01
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
1/2" Chips	APAC-Central #066 (Pawhuska, OK) P/S # m001505703	12
Mine Chat	Bingham S & G (Baxter Springs, KS) P/S # m001578009	25
Man. Sand	APAC-Central #066 (Pawhuska, OK) P/S # m001505703	10
Scrns.	APAC-Central #066 (Pawhuska, OK) P/S # m001505703	30
Sand	Sober Sand Co. (Ponca City, OK) P/S # m005373601	12
Fine R.A.P.	Contractor / Project Site P/S # Contractor	11

Asphalt Cement: Asphaltic Cement Type PG 58-28, acem010, Valero (Halstead, KS), m00964
(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-

Sieve Size	1/2" Chips	Mine Chat	Man. Sand	Scrns.	Sand	Fine R.A.P.			Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
Producer/Supplier:	APAC-Central #066 (Pawhuska, OK) P/S # m001505703	Bingham S & G (Baxter Springs, KS) P/S # m001578009	APAC-Central #066 (Pawhuska, OK) P/S # m001505703	APAC-Central #066 (Pawhuska, OK) P/S # m001505703	Sober Sand Co. (Ponca City, OK) P/S # m005373601	Contractor / Project Site P/S # Contractor							
1/2 in (12.5 mm)	100	100	100	100	100	97			100	**100**	100	100	0
3/8 in (9.5 mm)	87	100	100	100	100	94			98	**98**	91	100	7
#4 (4.75 mm)	10	38	95	99	97	72			69	**69**	62	76	7
#8 (2.36 mm)	3	5	49	69	84	50			43	**43**	38	48	5
#16 (1.18 mm)	2	2	25	45	66	38			29	**29**	25	33	4
#30 (.600 mm)	2	1	12	31	46	30			20	**20**	16	24	4
#50 (.300 mm)	2	1	5	22	24	22			13	**13**	9	17	4
#100 (.150 mm)	1	1	2	17	4	14			8	**8**	5	11	3
#200 (.075 mm)	1.4	0.5	0.3	14.6	0.1	10.2			5.8	**5.8**	3.8	7.8	2
AC Content %						4.7			6.1	**6.1**	5.7	6.5	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	6	87.3	85.5 - 89.0
Ndes	50		96.0

Tests on Aggregates		Required		Units
Contabro		N/A		%
Durability Index	73	40	min.	%
F.A.A. %U	45	N/A		%
Flat and Elongated	0	10	max.	%
Fractured Faces	100/100	98/95	min.	%
Insoluble Residue	41.8	40	min.	%
LA Abrasion	33	40	max.	%
Micro-Deval	18.9	25	max.	%
Permeability	4.5	12.5	max.	10^{-5}cm/s
Sand Equivalent	85	50	min.	%
IOC	0.30			%
Gse	2.654			
Gsb	2.616			
Specimen Weight	4660			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required Design / Field	% VMA	% VMA Required Design / Field	% VFA	% VFA Required
5.6	2.310	2.432	95.0		16.6		69.9	
6.1	2.316	2.414	95.9	96.0 / 94.5 - 97.4	16.9	15.5 / 15.0	75.7	73 - 78
6.6	2.337	2.397	97.5		16.6		84.9	

Dust Prop.
1.1
1.0
1.0

Dust Prop. Req. 0.6 - 1.6

ITS (PSI) 105.3 75 min.
TSR 0.90 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 106.2 @ 6.1 % Asphalt Cement
5.6 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 5.33 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: 8/24/2018
(mm/dd/yyyy)