



Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S4 (PG 58-28) Mat'l. Code: asco046

Insoluble - Recycled ID: I2

(Material Full Name and Material Code)

(Design Type and Design Type ID)

Evans & Assoc Const Co P/S # m00557

S4pv0111800200

(Producer/Supplier Name and Producer/Supplier Code)

(Mix ID)

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

(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
3/4" Chips	APAC-Central #066 (Pawhuska, OK) P/S # m001505703	11
5/8" Chips	Martin-Marietta (Snyder, OK) P/S # m002323802	18
1/2" Chips	APAC-Central #066 (Pawhuska, OK) P/S # m001505703	10
Drag Sand	Blevins Asphalt Const. Co. (Ottawa Co., OK) P/S # m009195810	13
Scrns.	APAC-Central #066 (Pawhuska, OK) P/S # m001505703	24
Sand	Sober Sand Co. (Ponca City, OK) P/S # m005373601	13
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)

Sieve Size	Producer/Supplier:								Comb. Agg.	Requirements			
	APAC-Central #066 (Pawhuska, OK) P/S # m001505703	Martin-Marietta (Snyder, OK) P/S # m002323802	APAC-Central #066 (Pawhuska, OK) P/S # m001505703	Blevins Asphalt Const. Co. (Ottawa Co., OK) P/S # m009195810	APAC-Central #066 (Pawhuska, OK) P/S # m001505703	Sober Sand Co. (Ponca City, OK) P/S # m005373601	Contractor / Project Site P/S # Contractor			JMF	Min.	Max.	% Tol. (±)
3/4" Chips	100	100	100	100	100	100	100	100	100	100	100	0	
1/2 in (12.5 mm)	62	90	100	100	100	100	97	94	94	87	100	7	
3/8 in (9.5 mm)	32	67	87	100	100	100	92	84	84	77	91	7	
#4 (4.75 mm)	6	16	10	98	99	97	68	61	61	54	68	7	
#8 (2.36 mm)	2	4	3	76	69	84	49	44	44	39	49	5	
#16 (1.18 mm)	1	2	2	48	45	66	36	30	30	26	34	4	
#30 (.600 mm)	1	2	2	28	31	46	27	21	21	17	25	4	
#50 (.300 mm)	1	1	2	16	22	24	18	13	13	9	17	4	
#100 (.150 mm)	1	1	2	11	17	4	10	8	8	5	11	3	
#200 (.075 mm)	1.0	0.9	1.4	8.1	14.6	0.1	7.8	5.8	5.8	3.8	7.8	2	
AC Content %							4.7	5.3	5.3	4.9	5.7	0.4	

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

Mix temperature @ discharge from mixer: 305 (152) ± 20 °F (± 10 °C) **Required**
 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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	% Density		
	# Gyr.	of Gmm	% Density Required
Nini	6	89.3	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates	Required	Units
Contabro	N/A	%
Durability Index	73	40 min. %
F.A.A. %U	44	N/A %
Flat and Elongated	0	10 max. %
Fractured Faces	100/100	85/80 min. %
Insoluble Residue	36	30 min. %
LA Abrasion	33	40 max. %
Micro-Deval	18.9	N/A %
Permeability	5.3	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	85	40 min. %
IOC	0.33	%
Gse	2.670	
Gsb	2.599	
Specimen Weight	4670	g

Tests on Compressed Mixtures							
%AC	Gmb	Gmm	% Density		% VMA	% VMA Required	% VFA
			of Gmm	% Density Required			
4.8	2.311	2.475	93.4	Design / Field	15.3	Design / Field	56.9 % VFA Required
5.3	2.367	2.456	96.4	96.0 / 94.5 - 97.4	13.8	14.5 / 14.0	72 - 77
5.8	2.375	2.438	97.4		13.9		81.3

Dust Prop.

1.5 **Dust Prop. Reg.**
 1.3 0.6 - 1.6
 1.2

ITS (PSI) 105.3 N/A min.
 TSR 0.80 0.80 / 0.75 min. (Design / Field)
 Compacted Wt. (lbs/sy/1" thick) = 108.0 @ 5.3 % Asphalt Cement
 4.8 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 1.38 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: 8/28/2018
 (mm/dd/yyyy)