



Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S4 (PG 76-28 OK) Mat'l. Code: asco010

Insoluble ID: I1

(Material Full Name and Material Code)

(Design Type and Design Type ID)

J & R Sand Co P/S # m00560

WS4qc0611700400

(Producer/Supplier Name and Producer/Supplier Code)

(Mix ID)

J & R Sand Co (Portable) Felt, OK- 350TPH PLANT ID # m00560-02

(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
5/8" Chips	Dolese Co (Cooperton, OK) P/S # m002723801	14
5/8" Chips	Dolese Co. (Roosevelt, OK) P/S # m010483804	13
Scrns.	Dolese Co (Cooperton, OK) P/S # m002723801	34
Stone Sand	Dolese Co. (Roosevelt, OK) P/S # m010483804	24
Sand	Kline Sand (Camargo, OK) P/S # m005932206	15
Warm Mix Asphalt (WMA) Technology		
EVOTHERM (Chem. Add.) qual028 Ingevity m00941 (Product Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		
Asphalt Cement: Asphaltic Cement Type PG 76-28 OK, acem001, Valero (Halstead, KS), m00964 (Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		

Sieve Size	Producer/Supplier:						Comb. Agg.	Requirements			% Tol. (±)
	Dolese Co (Cooperton, OK) P/S # m002723801	Dolese Co. (Roosevelt, OK) P/S # m010483804	Dolese Co (Cooperton, OK) P/S # m002723801	Dolese Co. (Roosevelt, OK) P/S # m010483804	Kline Sand (Camargo, OK) P/S # m005932206			JMF	Min.	Max.	
5/8" Chips	100	100	100	100	100	100	100	100	100	0	
3/4 in (19 mm)	92	94	100	100	100	98	98	91	100	7	
1/2 in (12.5 mm)	45	59	100	100	100	87	87	80	94	7	
3/8 in (9.5 mm)	3	5	86	96	100	68	68	61	75	7	
#4 (4.75 mm)	2	3	54	70	100	51	51	46	56	5	
#8 (2.36 mm)	1	2	34	49	99	39	39	35	43	4	
#16 (1.18 mm)	1	2	24	32	89	30	30	26	34	4	
#30 (.600 mm)	1	1	17	19	40	17	17	13	21	4	
#50 (.300 mm)	1	1	13	9	6	8	8	5	11	3	
#100 (.150 mm)	1.0	1.0	10.4	4.1	1.5	5.0	5.0	3.0	7.0	2	
#200 (.075 mm)						4.8	4.8	4.4	5.2	0.4	
AC Content %											

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Warm Mix Asphalt (WMA) Additive %

0.4

Mix temperature @ discharge from mixer: 275 (135) ± 20 °F (± 10 °C) **Required**
 Optimum roadway compaction temperature: 245 (118)
 Laboratory mixing temperature: 285 (141)
 Laboratory compaction temperature: 235 (113)

Tests on Aggregates	Required	Units
Durability Index	40 min.	%
F.A.A. %U	N/A	%
Flat and Elongated	0 10 max.	%
Fractured Faces	100/100 98/95 min.	%
Insoluble Residue	41.7 40 min.	%
LA Abrasion	29 40 max.	%
Micro-Deval	16.4 25 max.	%
Permeability	2 12.5 max.	10 ⁻⁵ cm/s
Sand Equivalent	77 50 min.	%
Pba	0.42	
IOC	0.11	%
Gse	2.753	
Gsb	2.722	
Specimen Weight	4750	g

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	90.0	85.5 - 89.0
Ndes	80		96.0

Tests on Compressed Mixtures								
%AC	Gmb	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA	% VFA Required
4.3	2.429	2.563	94.8	Design / Field	14.6	Design / Field	64.4	72 - 77
4.8	2.444	2.542	96.1	96.0 / 94.5 - 97.4	14.5	14.5 / 14.0	73.1	
5.3	2.451	2.522	97.2		14.7		81.0	

Dust Prop. ITS (PSI) 257.3 75 min.
 TSR 0.87 0.80 / 0.75 min. (Design / Field)
 Compacted Wt. (lbs/sy/1" thick) = 111.8 @ 4.8 % Asphalt Cement
 Dust Prop. Req. 0.6 - 1.6

Hamburg Rut Test Depth (mm) 3.79 12.50 max. @ 20,000 cycles

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

Comments:

Last Modified By:

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(User Name and User ID)

Date: 3/27/2017
(mm/dd/yyyy)