



Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S4 (PG 64-22 OK) Mat'l. Code: asco012

Insoluble ID: I1

(Material Full Name and Material Code)

(Design Type and Design Type ID)

Venture Corporation P/S # m00719

WS4qc0411700401

(Producer/Supplier Name and Producer/Supplier Code)

(Mix ID)

Venture Corporation- Portable PLANT ID # m00719-01

(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
3/4" Chips	Huber Sand Company (Syracuse, KS) P/S # m010608026	20
Crusher Run	Klotz Sand and Gravel (Lakin, KS) P/S # m008758021	20
Crusher Fines	Carder, Inc. (S Bar C Farms Pit) P/S # m008368108	45
Sand	Huber Sand Company (Syracuse, KS) P/S # m010608026	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 64-22 OK, acem003, Valero Mckee (Sunray, TX), m00311 (Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		

Sieve Size	Producer/Supplier:				Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
	3/4" Chips	Crusher Run	Crusher Fines	Sand					
3/4 in (19 mm)	100	100	100	100	100	100	100	100	0
1/2 in (12.5 mm)	58	97	100	98	91	91	84	98	7
3/8 in (9.5 mm)	24	91	100	92	82	84	77	91	7
#4 (4.75 mm)	3	68	90	78	66	71	64	78	7
#8 (2.36 mm)	3	47	68	55	49	49	44	54	5
#16 (1.18 mm)	2	31	52	27	34	34	30	38	4
#30 (.600 mm)	2	21	41	13	25	25	21	29	4
#50 (.300 mm)	2	13	32	5	18	18	14	22	4
#100 (.150 mm)	2	7	17	2	10	10	7	13	3
#200 (.075 mm)	1.4	4.2	9.8	0.7	5.6	5.6	3.6	7.6	2
AC Content %					5.2	5.4	5.0	5.8	0.4

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

Warm Mix Asphalt (WMA) Additive %

0.4

	°F (°C)	Required
Mix temperature @ discharge from mixer:	265 (129)	± 20 °F (± 10 °C)
Optimum roadway compaction temperature:	230 (110)	
Laboratory mixing temperature:	275 (135)	
Laboratory compaction temperature:	260 (127)	

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	89.4	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates	Required	Units
Durability Index	90	40 min. %
F.A.A. %U	N/A	%
Flat and Elongated	0	10 max. %
Fractured Faces	89/93	85/80 min. %
Insoluble Residue	96.5	30 min. %
LA Abrasion	31	40 max. %
Micro-Deval	7.8	N/A %
Permeability	10.7	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	78	40 min. %
Pba	0.61	%
IOC	0.06	%
Gse	2.636	
Gsb	2.595	
Specimen Weight	4750	g

Tests on Compressed Mixtures								
%AC	Gmb	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA	% VFA Required
4.7	2.313	2.451	94.4	Design / Field	15.1	Design / Field	62.9	72 - 77
5.2	2.330	2.432	95.8	96.0 / 94.5 - 97.4	14.9	14.5 / 14.0	71.8	
5.7	2.339	2.414	96.9		15.0		79.3	

Dust Prop.	Dust Prop. Req.
1.4	0.6 - 1.6
1.2	
1.1	

ITS (PSI) 91.3 N/A min.
 TSR 0.83 0.80 / 0.75 min. (Design / Field)
 Compacted Wt. (lbs/sy/1" thick) = 106.7 @ 5.2 % Asphalt Cement

x 1st JMF Revision

Hamburg Rut Test Depth (mm) 1.76 12.50 max. @ 10,000 cycles

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

Comments: Revised JMF by Contractor: Effective 10/12/2017, ksuitor 10/25/17

Last Modified By: Suitor, Kevin ksuitor
(User Name and User ID)

Date: 10/25/2017
(mm/dd/yyyy)