



Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S4 (PG 70-28 OK) Mat'l. Code: asco011

Insoluble ID: I1

(Material Full Name and Material Code)

(Design Type and Design Type ID)

Venture Corporation P/S # m00719

WS4qc0411800600

(Producer/Supplier Name and Producer/Supplier Code)

(Mix ID)

Venture Corporation #5- Portable PLANT ID # m00719-01

(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
3/8" Chips	Martin-Marietta (Mill Creek, OK) P/S # m002303502	10
Man. Sand	Martin Marietta Mill Creek Limestone P/S # m005253504	33
Sand (Unlisted Source)	Larry Hutchinson Sand	15
5/8" Chips	Martin-Marietta (Mill Creek, OK) P/S # m002303502	30
Scrns.	Martin-Marietta (Mill Creek, OK) P/S # m002303502	12
Warm Mix Asphalt (WMA) Technology: EVOTHERM (Chem. Add.) qual028 Ingevity m00941 (Product Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		
Asphalt Additive, Anti-Strip: AD-HERE HP-PLUS addi003 ARR-MAZ Products, LP (Winter Haven, FL) m00070 (Product Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		
Asphalt Cement: Asphaltic Cement Type PG 70-28 OK, acem002, HollyFrontier (Catoosa, OK), m01028 (Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		

Sieve Size	Producer/Supplier:						Comb. Agg.	% Tol. (±)			
	Martin-Marietta (Mill Creek, OK) P/S # m002303502	Martin Marietta Mill Creek Limestone P/S # m005253504	Larry Hutchinson Sand	Martin-Marietta (Mill Creek, OK) P/S # m002303502	Martin-Marietta (Mill Creek, OK) P/S # m002303502			JMF	Min.	Max.	
3/4 in (19 mm)	100	100	100	100	100	100	100	100	100	0	
1/2 in (12.5 mm)	100	100	100	77	100	93	93	86	100	7	
3/8 in (9.5 mm)	95	100	100	42	100	82	82	75	89	7	
#4 (4.75 mm)	35	100	100	9	85	64	64	57	71	7	
#8 (2.36 mm)	9	84	100	3	59	52	52	47	57	5	
#16 (1.18 mm)	5	62	100	2	38	41	41	37	45	4	
#30 (.600 mm)	3	46	94	2	25	33	33	29	37	4	
#50 (.300 mm)	3	29	54	1	17	20	20	16	24	4	
#100 (.150 mm)	2	15	13	1	11	9	9	6	12	3	
#200 (.075 mm)	1.5	5.4	3.7	0.6	8.0	3.6	3.6	1.6	5.6	2	
AC Content %							5.1	5.1	4.7	5.5	0.4
Asphalt Additive, Anti-Strip %							0.5				
Warm Mix Asphalt (WMA) Additive %							0.3				

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

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

Tests on Asphalt Cement	Found
Specific Gravity @ 77 °F	1.0100

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	% Density		
	# Gyr.	of Gmm	% Density Required
Nini	7	90.2	85.5 - 90.5
Ndes	65		96.0

Tests on Aggregates	Required	Units
Contabro	N/A	%
Durability Index	90	40 min. %
F.A.A. %U	N/A	%
Flat and Elongated	0	10 max. %
Fractured Faces	100/100	95/90 min. %
Insoluble Residue	90.6	40 min. %
LA Abrasion	31	40 max. %
Micro-Deval	12.6	N/A %
Permeability	11.2	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	77	45 min. %
Pba	0.51	
IOC	0.24	%
Gse	2.727	
Gsb	2.690	
Specimen Weight	4800	g

Tests on Compressed Mixtures							
%AC	% Density			% VMA	% VMA Required	% VFA	% VFA Required
	Gmb	Gmm	of Gmm				
5.1	2.363	2.509	94.2	Design / Field	16.6	Design / Field	65.1
5.6	2.379	2.490	95.5	96.0 / 94.5 - 97.4	16.5	14.5 / 14.0	72.7
6.1	2.399	2.471	97.1		16.3		82.2

Dust Prop.
 0.8 **Dust Prop. Reg.** 0.6 - 1.6
 0.7
 0.6

ITS (PSI) 75.1 N/A min.
TSR 0.89 0.80 / 0.75 min. (Design / Field)
 Compacted Wt. (lbs/sy/1" thick) = 110.4 @ 5.1 % Asphalt Cement

Hamburg Rut Test Depth (mm) 1.81 12.50 max. @ 15,000 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: 8/1/2018
 (mm/dd/yyyy)