



Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S3 (PG 70-28 OK) Mat'l. Code: asco008
 (Material Full Name and Material Code)

Binder - Recycled ID: B2
 (Design Type and Design Type ID)

Venture Corporation P/S # m00719
 (Producer/Supplier Name and Producer/Supplier Code)

WS3qc0411800700
 (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	13
Man. Sand	Martin-Marietta (Mill Creek, OK) P/S # m002303502	15
'C' Rock	Martin Marietta Mill Creek Limestone P/S # m005253504	35
Man. Sand	Martin Marietta Mill Creek Limestone P/S # m005253504	10
Sand (Unlisted Source)	Larry Hutchinson Sand	12
Fine R.A.P.	Contractor / Project Site P/S # Contractor	15

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.	Requires Form 93-E0 signed by the Department for production use. -Oklahoma D.O.T. Materials-			
	Martin-Marietta (Mill Creek, OK) P/S # m002303502	Martin-Marietta (Mill Creek, OK) P/S # m002303502	Martin Marietta Mill Creek Limestone P/S # m005253504	Martin Marietta Mill Creek Limestone P/S # m005253504	Larry Hutchinson Sand	Contractor / Project Site P/S # Contractor			JMF	Min.	Max.	% Tol. (±)
1 in (25 mm)	100	100	100	100	100	100	100	100	100	100	100	0
3/4 in (19 mm)	100	100	100	100	100	100	100	100	100	93	100	7
1/2 in (12.5 mm)	100	100	71	100	100	100	98	90	90	83	97	7
3/8 in (9.5 mm)	95	100	26	100	100	95	73	73	66	80	7	7
#4 (4.75 mm)	35	99	3	100	100	70	53	53	46	60	7	7
#8 (2.36 mm)	9	82	2	84	100	49	42	42	37	47	5	5
#16 (1.18 mm)	5	56	2	62	100	36	33	33	29	37	4	4
#30 (.600 mm)	3	35	2	46	94	27	26	26	22	30	4	4
#50 (.300 mm)	3	16	2	29	54	20	16	16	12	20	4	4
#100 (.150 mm)	2	8	2	15	13	14	7	7	4	10	3	3
#200 (.075 mm)	1.5	5.1	1.1	5.4	3.7	10.1	3.8	3.8	1.8	5.8	2	2
AC Content %								4.5	4.5	4.1	4.9	0.4
Asphalt Additive, Anti-Strip %								0.5				
Warm Mix Asphalt (WMA) Additive %								0.3				

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

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	N/A	%
LA Abrasion	31	40 max. %
Micro-Deval	12.6	N/A %
Permeability	11.9	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	77	45 min. %
Pba	0.5	%
IOC	0.19	%
Gse	2.754	%
Gsb	2.717	%
Specimen Weight	4850	g

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

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	% Density		
	# Gyr.	of Gmm	% Density Required
Nini	7	90.0	85.5 - 90.5
Ndes	65		96.0

Tests on Compressed Mixtures							
%AC	Gmb	Gmm	% Density		% VMA	% VMA Required	% VFA
			of Gmm	% Density Required			
4.3	2.411	2.564	94.0	Design / Field	15.1	Design / Field	60.3
4.8	2.433	2.543	95.7	96.0 / 94.5 - 97.4	14.8	13.5 / 13.0	70.9
5.3	2.455	2.523	97.3		14.4		81.3

Dust Prop. 1.0 Dust Prop. Reg. 0.6 - 1.6
 ITS (PSI) 81.7 N/A min.
 TSR 0.86 0.80 / 0.75 min. (Design / Field)
 Compacted Wt. (lbs/sy/1" thick) = 112.4 @ 4.5 % Asphalt Cement
 3.6 % New Asphalt Cement
 Hamburg Rut Test Depth (mm) 1.61 12.50 max. @ 15,000 cycles

Comments:

Last Modified By: Smith, Jerry D. jsmith Date: 8/1/2018
 (User Name and User ID) (mm/dd/yyyy)