



Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S3 (PG 64-22 OK) Mat'l. Code: asco009
 (Material Full Name and Material Code)
 Cummins Const Co P/S # m00556
 (Producer/Supplier Name and Producer/Supplier Code)
 Cummins Const Co #2728 (Sawyer, OK) - 300TPH PLANT ID # m00556-03
 (Plant Name and Plant ID)

Insoluble - Recycled ID: I2
 (Design Type and Design Type ID)
 WS3qc0101295300
 (Mix ID)

Aggregate	Producer/Supplier	% USED
Pile # 7	Martin-Marietta (Sawyer, OK) P/S # m002311206	31
'D' Rock	Martin-Marietta (Sawyer, OK) P/S # m002311206	12
Scrms.	Martin-Marietta (Sawyer, OK) P/S # m002311206	22
Sand (Unlisted Source)	Drake Sand Gay, OK	10
Fine R.A.P.	Contractor / Project Site P/S # Contractor	25
Warm Mix Asphalt (WMA) Technology: TEREX (Foaming Process) qual028 Terex Roadbuilding m00801 (Product Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		
Asphalt Cement: Asphaltic Cement Type PG 64-22 OK, acem003, Valero (Ardmore, OK), m00352 (Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		

Sieve Size	Producer/Supplier:						Comb. Agg.	% Tol. (±)			
	Pile # 7	'D' Rock	Scrms.	Sand (Unlisted Source)	Fine R.A.P.			JMF	Min.	Max.	
1 in (25 mm)	100	100	100	100	100		100	100	100	0	
3/4 in (19 mm)	95	100	100	100	100		98	91	100	7	
1/2 in (12.5 mm)	18	100	100	100	98		74	67	81	7	
3/8 in (9.5 mm)	4	94	100	100	96		69	62	76	7	
#4 (4.75 mm)	2	29	99	100	71		54	47	61	7	
#8 (2.36 mm)	2	8	86	99	52		43	38	48	5	
#16 (1.18 mm)	2	3	58	98	42		34	30	38	4	
#30 (.600 mm)	2	3	46	90	35		29	25	33	4	
#50 (.300 mm)	1	3	37	52	26		21	17	25	4	
#100 (.150 mm)	1	2	24	5	13		10	7	13	3	
#200 (.075 mm)	0.7	1.2	14.8	1.2	7.7		5.7	3.7	7.7	2	
AC Content %					6.0		5.0	4.6	5.4	0.4	

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

Warm Mix Asphalt (WMA) Additive % 2.0

Mix temperature @ discharge from mixer: 275 (135) ± 20 °F (± 10 °C) **Required**
 Optimum roadway compaction temperature: 260 (127)
 Laboratory mixing temperature: 300 (149)
 Laboratory compaction temperature: 300 (149)

Tests on Aggregates	Required	Units
Durability Index	90	40 min. %
F.A.A. %U	N/A	%
Flat and Elongated	10	max. %
Fractured Faces	100/100	85/80 min. %
Insoluble Residue	76.6	30 min. %
LA Abrasion	24	40 max. %
Micro-Deval	8.6	N/A %
Permeability	2.7	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	60	40 min. %
Pba	0.5	%
IOC	0.40	%
Gse	2.590	
Gsb	2.557	
Specimen Weight	4650	g

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

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

Tests on Compressed Mixtures (@ Design AC)			
	# Gyr.	% Density of Gmm	% Density Required
Nini	6	90.0	85.5 - 91.5
Ndes	50		96.0

Tests on Compressed Mixtures							
%AC	Gmb	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA
4.5	2.274	2.420	94.0	Design / Field	15.1	Design / Field	60.3
5.0	2.305	2.402	96.0	96.0 / 94.5 - 97.4	14.4	13.5 / 13.0	72.2
5.5	2.312	2.385	96.9		14.6		78.8

Dust Prop.
 1.4 **Dust Prop. Req.**
 1.3 0.6 - 1.6
 1.1

ITS (PSI) 275.7 N/A min.
TSR 0.97 0.80 / 0.75 min. (Design / Field)
 Compacted Wt. (lbs/sy/1" thick) = 105.7 @ 5.0 % Asphalt Cement
 3.5 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 1.68 12.50 max. @ 10,000 cycles

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

Comments: _____

Last Modified By: Schratwieser, Edward P. eschratw
 (User Name and User ID)

Date: 3/19/2013
 (mm/dd/yyyy)