



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)

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

Cummins Const Co P/S # m00556
 (Producer/Supplier Name and Producer/Supplier Code)

WS3qc0101793000
 (Mix ID)

Cummins Const Co #2741 (Broken Bow, OK) - 300TPH PLANT ID # m00556-12
 (Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
Pile # 7	Martin-Marietta (Sawyer, OK) P/S # m002311206	20
'D' Rock	Martin-Marietta (Eagletown, OK) P/S # m001374502	20
Scrns.	Martin-Marietta (Sawyer, OK) P/S # m002311206	25
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	Pile # 7	'D' Rock	Scrns.	Sand (Unlisted Source)	Fine R.A.P.	Comb. Agg.	Requirements			% Tol. (±)
							JMF	Min.	Max.	
1 in (25 mm)	100	100	100	100	100	100	100	100	100	0
3/4 in (19 mm)	95	100	100	100	100	99	99	92	100	7
1/2 in (12.5 mm)	18	100	100	100	98	83	83	76	90	7
3/8 in (9.5 mm)	4	92	100	100	92	77	77	70	84	7
#4 (4.75 mm)	2	30	99	100	71	59	59	52	66	7
#8 (2.36 mm)	2	5	74	99	52	43	43	38	48	5
#16 (1.18 mm)	2	4	52	98	41	34	34	30	38	4
#30 (.600 mm)	2	3	42	90	37	30	30	26	34	4
#50 (.300 mm)	1	2	36	52	32	23	23	19	27	4
#100 (.150 mm)	1	2	23	5	20	12	12	9	15	3
#200 (.075 mm)	0.7	1.2	14.8	1.1	8.8	6.4	6.4	4.4	8.4	2
AC Content %					5.2	4.6	4.6	4.2	5.0	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

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

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	90.1	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates	Required	Units
Durability Index	40 min.	%
F.A.A. %U	N/A	%
Flat and Elongated	10 max.	%
Fractured Faces	85/80 min.	%
Insoluble Residue	30 min.	%
LA Abrasion	40 max.	%
Micro-Deval	N/A	%
Permeability	12.5 max.	10 ⁻⁵ cm/s
Sand Equivalent	40 min.	%
Pba	0.5	%
IOC	0.31	%
Gse	2.596	
Gsb	2.563	
Specimen Weight	4650	g

Tests on Compressed Mixtures								
%AC	Gmb	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA	% VFA Required
4.1	2.283	2.439	93.6	Design / Field	14.6	Design / Field	56.2	70 - 75
4.6	2.323	2.421	96.0	96.0 / 94.5 - 97.4	13.5	13.5 / 13.0	70.4	
5.1	2.358	2.404	98.1		12.7		85.0	

Dust Prop.	1.8	Dust Prop. Req. 0.6 - 1.6	ITS (PSI) 229.5	N/A min.
	1.6		TSR 0.93	0.80 / 0.75 min. (Design / Field)
	1.4		Compacted Wt. (lbs/sy/1" thick) = 106.5	@ 4.6 % Asphalt Cement 3.3 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 0.83 #N/A

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

Comments:

Last Modified By:

Suitor, Kevin ksuitar
 (User Name and User ID)

Date: 9/6/2018
 (mm/dd/yyyy)