



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)

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

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

WS3qc0101396800
 (Mix ID)

Cummins Const Co (Coleman, OK) - 300TPH PLANT ID # m00556-11
 (Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
#67 Rock	Dolese Co (Coleman, OK) P/S # m002710302	25
3/8" Chips	Dolese Co (Coleman, OK) P/S # m002710302	10
Man. Sand	TXI Mill Creek Stone Plant P/S # m005253504	20
Scrms.	Dolese Co (Coleman, OK) P/S # m002710302	10
Sand (Unlisted Source)	Cardinal Sand (Coleman, 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.	%			
	Dolese Co (Coleman, OK) P/S # m002710302	Dolese Co (Coleman, OK) P/S # m002710302	TXI Mill Creek Stone Plant P/S # m005253504	Dolese Co (Coleman, OK) P/S # m002710302	Cardinal Sand (Coleman, OK)	Contractor / Project Site P/S # Contractor			JMF	Min.	Max.	Tol. (±)
#67 Rock	100	100	100	100	100	100	100	100	100	100	0	
3/8" Chips	98	100	100	100	100	100	100	100	100	93	7	
Man. Sand	53	100	100	100	100	100	88	88	81	95	7	
Scrms.	31	95	100	100	100	94	81	81	74	88	7	
Sand (Unlisted Source)	3	19	99	89	100	71	59	59	52	66	7	
Fine R.A.P.	1	6	82	55	100	45	44	44	39	49	5	
AC Content %	1	4	54	36	99	32	33	33	29	37	4	
	1	2	30	27	99	25	25	25	21	29	4	
	1	1	12	20	85	19	18	18	14	22	4	
	1	1	4	15	33	13	9	9	6	12	3	
	0.6	0.9	1.8	12.5	9.2	6.2	4.3	4.3	2.3	6.3	2	
						5.2	4.3	4.3	3.9	4.7	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	67	40 min. %
F.A.A. %U	N/A	%
Flat and Elongated	10	max. %
Fractured Faces	100/100	85/80 min. %
Insoluble Residue	11.2	N/A %
LA Abrasion	22.3	40 max. %
Micro-Deval	12.4	N/A %
Permeability	3.9	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	69	40 min. %
Pba	0.36	%
IOC	0.86	%
Gse	2.775	
Gsb	2.748	
Specimen Weight	4900	g

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	89.8	85.5 - 91.5
Ndes	50		96.0

Tests on Compressed Mixtures							
%AC	Gmb	Gmm	% Density		% VMA	% VMA Required	% VFA
			of Gmm	% Density Required			
3.8	2.432	2.602	93.5	Design / Field	14.9	Design / Field	56.4
4.3	2.477	2.581	96.0	96.0 / 94.5 - 97.4	13.7	13.5 / 13.0	70.8
4.8	2.488	2.560	97.2		13.8		79.7

ITS (PSI) 196.4 N/A min.
 TSR 0.83 0.80 / 0.75 min. (Design / Field)
 Compacted Wt. (lbs/sy/1" thick) = 113.5 @ 4.3 % Asphalt Cement
 3.0 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 2.06 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: 3/14/2014
 (mm/dd/yyyy)