



# 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)

S3qc0101792500  
(Mix ID)

Cummins Const Co (Woodward, OK) - 12000 lb Batch PLANT ID # m00556-14  
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
#67 Rock	Dolese Co (Cooperton, OK) P/S # m002723801	25
3/8" Chips	Dolese Co (Cooperton, OK) P/S # m002723801	8
Man. Sand	Martin-Marietta (Snyder, OK) P/S # m002323802	20
Scrns.	Dolese Co (Cooperton, OK) P/S # m002723801	14
Sand (Unlisted Source)	Loomis Sand Cleo Springs, OK	8
Fine R.A.P.	Contractor / Project Site P/S # Contractor	25

Asphalt Cement: Asphaltic Cement Type PG 64-22 OK, acem003, HollyFrontier (Catoosa, OK), m01028  
(Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)

Producer/Supplier:	Requires Form 93-E0 signed by the Department for production use. -Oklahoma D.O.T. Materials-											
	Dolese Co (Cooperton, OK) P/S # m002723801	Dolese Co (Cooperton, OK) P/S # m002723801	Martin-Marietta (Snyder, OK) P/S # m002323802	Dolese Co (Cooperton, OK) P/S # m002723801	Loomis Sand Cleo Springs, OK	Contractor / Project Site P/S # Contractor						
Sieve Size	#67 Rock	3/8" Chips	Man. Sand	Scrns.	Sand (Unlisted Source)	Fine R.A.P.		Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
1 in (25 mm)	100	100	100	100	100	100		100	100	100	100	0
3/4 in (19 mm)	98	100	100	100	100	100		100	100	93	100	7
1/2 in (12.5 mm)	59	100	100	100	100	97		89	89	82	96	7
3/8 in (9.5 mm)	31	95	100	100	100	85		79	79	72	86	7
#4 (4.75 mm)	5	12	95	91	100	75		61	61	54	68	7
#8 (2.36 mm)	3	4	70	59	100	55		45	45	40	50	5
#16 (1.18 mm)	2	2	41	37	100	42		33	33	29	37	4
#30 (.600 mm)	1	1	22	25	100	30		24	24	20	28	4
#50 (.300 mm)	1	1	10	18	80	20		16	16	12	20	4
#100 (.150 mm)	1	1	3	14	19	15		8	8	5	11	3
#200 (.075 mm)	0.9	1.3	2.6	12.1	4.5	9.5		5.3	5.3	3.3	7.3	2
AC Content %						4.5		4.3	4.3	3.9	4.7	0.4

Mix temperature @ discharge from mixer: 605 (318) °F (°C) Required ± 20 °F (± 10 °C)  
 Optimum roadway compaction temperature: 290 (143)  
 Laboratory mixing temperature: 325 (163)  
 Laboratory compaction temperature: 325 (163)

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	89.7	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates	Required	Units
Durability Index	80	40 min. %
F.A.A. %U	N/A	%
Flat and Elongated	10	max. %
Fractured Faces	100/100	85/80 min. %
Insoluble Residue	11.8	N/A %
LA Abrasion	26	40 max. %
Micro-Deval	9.8	N/A %
Permeability	2.5	12.5 max. 10 <sup>-5</sup> cm/s
Sand Equivalent	73	40 min. %
IOC	0.34	%
Gse	2.682	
Gsb	2.663	
Specimen Weight	4800	g

Tests on Compressed Mixtures							
%AC	Gmb	Gmm	% Density		% VMA	% VMA Required	% VFA
			of Gmm	% Density Required			
3.8	2.371	2.523	94.0	Design / Field	14.3	Design / Field	58.0
4.3	2.404	2.504	96.0	96.0 / 94.5 - 97.4	13.6	13.5 / 13.0	70.6
4.8	2.418	2.485	97.3		13.6		80.1

ITS (PSI) 144.4 N/A min.  
 TSR 0.85 0.80 / 0.75 min. (Design / Field)  
 Compacted Wt. (lbs/sy/1" thick) = 110.1 @ 4.3 % Asphalt Cement  
 3.2 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 2.53 #N/A

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

Comments:

Last Modified By: Suitor, Kevin ksuito

Date: 2/16/2018 (mm/dd/yyyy)