



Oklahoma Department of Transportation Mix Design Report

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

Binder - Recycled ID: B2

(Material Full Name and Material Code)

(Design Type and Design Type ID)

Cummins Const Co P/S # m00556

WS3qc0101683200

(Producer/Supplier Name and Producer/Supplier Code)

(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	23
3/8" Chips	Dolese Co (Cooperton, OK) P/S # m002723801	15
Man. Sand	Martin-Marietta (Snyder, OK) P/S # m002323802	27
Scrns.	Dolese Co (Cooperton, OK) P/S # m002723801	10
Sand (Unlisted Source)	Loomis Sand (Cleo Springs, OK)	10
Fine R.A.P.	Contractor / Project Site P/S # Contractor	15
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 70-28 OK, acem002, Lion Oil Frontier (Muskogee, OK), m01021 (Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		

Producer/Supplier:	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	Requires Form 93-E0 signed by the Department for production use. -Oklahoma D.O.T. Materials-				
	#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	90	90	83	97	7
3/8 in (9.5 mm)	31	87	100	100	100	85	80	80	73	87	7
#4 (4.75 mm)	5	12	95	91	100	75	59	59	52	66	7
#8 (2.36 mm)	3	4	70	59	100	55	44	44	39	49	5
#16 (1.18 mm)	2	2	41	37	100	42	32	32	28	36	4
#30 (.600 mm)	1	1	22	25	100	30	23	23	19	27	4
#50 (.300 mm)	1	1	10	18	80	20	16	16	12	20	4
#100 (.150 mm)	1	1	3	14	19	15	7	7	4	10	3
#200 (.075 mm)	0.9	1.3	2.6	12.1	4.5	9.5	4.2	4.2	2.2	6.2	2
AC Content %						4.8	4.3	4.3	3.9	4.7	0.4

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	80	40 min. %
F.A.A. %U		N/A %
Flat and Elongated	0	10 max. %
Fractured Faces	100/100	95/90 min. %
Insoluble Residue	15.4	N/A %
LA Abrasion	26	40 max. %
Micro-Deval	9.8	N/A %
Permeability	8.9	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	77	45 min. %
Pba	0.3	
IOC	0.17	%
Gse	2.669	
Gsb	2.648	
Specimen Weight	4800	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	7	90.0	85.5 - 90.5
Ndes	65		96.0

Tests on Compressed Mixtures							
%AC	Gmb	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA
3.8	2.374	2.512	94.5	Design / Field	13.8	Design / Field	60.1
4.3	2.394	2.493	96.0	96.0 / 94.5 - 97.4	13.5	13.5 / 13.0	70.4
4.8	2.409	2.474	97.4		13.4		80.6

Dust Prop.
 1.2 **Dust Prop. Req.** 0.6 - 1.6
 1.1
 0.9

ITS (PSI) 117.1 N/A min.
TSR 0.80 0.80 / 0.75 min. (Design / Field)
 Compacted Wt. (lbs/sy/1" thick) = 109.7 @ 4.3 % Asphalt Cement
 3.6 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 3.30 12.50 max. @ 15,000 cycles

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

Comments:

Last Modified By: Suito, Kevin ksuito (User Name and User ID)

Date: 3/13/2018 (mm/dd/yyyy)