Version: V03.50

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S4 (PG 76-28 OK) Mat'l. Code: asco010
(Material Full Name and Material Code)

Insoluble ID: I1
(Design Type and Design Type ID)

Cornell Const Co P/S # m00309
(Producer/Supplier Name and Producer/Supplier Code)

WS4qc0361800400
(Mix ID)

Cornell Const Co (Portable) - 400TPH PLANT ID # m00309-01
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
5/8" Chips	Martin-Marietta (Snyder, OK) P/S # m002323802	16
5/8" Chips	Dolese Co (Cooperton, OK) P/S # m002723801	19
Scrns.	Dolese Co (Cooperton, OK) P/S # m002723801	26
C-33 Scrns.	Martin-Marietta (Snyder, OK) P/S # m002323802	27
Sand (Unlisted Source)	McLemore Pit Elk City,OK	12

Warm Mix Asphalt (WMA) Technology: MAXAM (Foaming Process) qual028 Maxam Equipment m00802
(Product Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)

Asphalt Cement: Asphaltic Cement Type PG 76-28 OK, acem001, Coastal Energy (Clinton, OK), m01042
(Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)

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

Sieve Size	Producer/Supplier: Martin-Marietta (Snyder, OK) P/S # m002323802 — 5/8" Chips	Dolese Co (Cooperton, OK) P/S # m002723801 — 5/8" Chips	Dolese Co (Cooperton, OK) P/S # m002723801 — Scrns.	Martin-Marietta (Snyder, OK) P/S # m002323802 — C-33 Scrns.	McLemore Pit Elk City,OK — Sand (Unlisted Source)				Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
3/4 in (19 mm)	100	100	100	100	100				100	**100**	100	100	0
1/2 in (12.5 mm)	91	94	100	100	100				97	**97**	90	100	7
3/8 in (9.5 mm)	65	58	100	100	100				86	**86**	79	93	7
#4 (4.75 mm)	8	5	92	93	100				63	**63**	56	70	7
#8 (2.36 mm)	3	2	62	69	99				47	**47**	42	52	5
#16 (1.18 mm)	2	2	40	46	98				35	**35**	31	39	4
#30 (.600 mm)	2	2	27	27	86				25	**25**	21	29	4
#50 (.300 mm)	2	1	18	14	34				13	**13**	9	17	4
#100 (.150 mm)	1	1	14	6	12				7	**7**	4	10	3
#200 (.075 mm)	0.8	1.0	11.4	3.0	5.1				4.7	**4.7**	2.7	6.7	2
AC Content %									4.8	**4.8**	4.4	5.2	0.4

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:	325 (163)	
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	8	88.7	85.5 - 89.0
Ndes	80		96.0

Tests on Aggregates		Required		Units
Contabro		N/A		%
Durability Index	80	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated	0	10	max.	%
Fractured Faces	100/100	98/95	min.	%
Insoluble Residue	45.4	40	min.	%
LA Abrasion	26	40	max.	%
Micro-Deval	9.8	25	max.	%
Permeability	3.1	12.5	max.	10^{-5}cm/s
Sand Equivalent	81	50	min.	%
Pba	0.4			
IOC	0.25			%
Gse	2.689			
Gsb	2.661			
Specimen Weight	4860			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA	% VFA Required
4.3	2.360	2.510	94.0	Design / Field	15.1	Design / Field	60.3	72 - 77
4.8	2.391	2.490	96.0	96.0 / 94.5 - 97.4	14.5	14.5 / 14.0	72.4	
5.3	2.415	2.471	97.7		14.1		83.7	

Dust Prop.
1.2
1.1
1.0

Dust Prop. Req. 0.6 - 1.6

ITS (PSI) 110.2 75 min.

TSR 0.89 0.80 / 0.75 min. (Design / Field)

Compacted Wt. (lbs/sy/1" thick) = 109.6 @ 4.8 % Asphalt Cement

Hamburg Rut Test Depth (mm) 2.07 12.50 max. @ 20,000 cycles

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

Comments:

Last Modified By: McComack, Hunter J. hmccomac
(User Name and User ID)

Date: 11/28/2018
(mm/dd/yyyy)