Version: V03.40

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)

WS4qc0361890200
(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	35
Scrns.	Dolese Co (Cooperton, OK) P/S # m002723801	23
C-33 Scrns.	Martin-Marietta (Snyder, OK) P/S # m002323802	30
Sand (Unlisted Source)	T&G Sand Snyder,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 # m00272380 — Scrns.	Martin-Marietta (Snyder, OK) P/S # m002323802 — C-33 Scrns.	T&G Sand Snyder,Ok — Sand (Unlisted Source)					Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
3/4 in (19 mm)	100	100	100	100					100	**100**	100	100	0
1/2 in (12.5 mm)	87	100	100	100					95	**95**	88	100	7
3/8 in (9.5 mm)	57	100	100	100					85	**85**	78	92	7
#4 (4.75 mm)	3	98	89	100					62	**62**	55	69	7
#8 (2.36 mm)	1	65	60	99					45	**45**	40	50	5
#16 (1.18 mm)	1	40	39	97					33	**33**	29	37	4
#30 (.600 mm)	1	28	24	88					25	**25**	21	29	4
#50 (.300 mm)	1	20	14	44					14	**14**	10	18	4
#100 (.150 mm)	1	15	8	7					7	**7**	4	10	3
#200 (.075 mm)	0.3	11.5	4.4	0.8					4.2	**4.2**	2.2	6.2	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
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	84.2	40	min.	%
LA Abrasion	26	40	max.	%
Micro-Deval	9.8	25	max.	%
Permeability	2.8	12.5	max.	10^{-5}cm/s
Sand Equivalent	81	50	min.	%
Pba	0.29			
IOC	0.12			%
Gse	2.651			
Gsb	2.631			
Specimen Weight	4800			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA	% VFA Required
4.3	2.332	2.478	94.1	Design / Field	15.2	Design / Field	61.2	72 - 77
4.8	2.360	2.459	96.0	96.0 / 94.5 - 97.4	14.6	14.5 / 14.0	72.6	
5.3	2.381	2.441	97.5		14.3		82.5	

Dust Prop.	Dust Prop. Req.
1.1	0.6 - 1.6
0.9	
0.8	

ITS (PSI) 108.3 75 min.
TSR 0.83 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 108.2 @ 4.8 % Asphalt Cement

Hamburg Rut Test Depth (mm) 2.04 12.50 max. @ 20,000 cycles

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

Comments:

Last Modified By: Vivanco, David dvivanco
(User Name and User ID)

Date: 6/18/2018
(mm/dd/yyyy)