Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S4 (PG 70-28 OK) Mat'l. Code: asco011
(Material Full Name and Material Code)

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

Dunham's Asphalt Services, Inc. P/S # m00837
(Producer/Supplier Name and Producer/Supplier Code)

S4pv0291500101
(Mix ID)

Dunham's Asphalt Services, Inc. PLANT ID # m00837-01
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
3/4" Chips	Anchor Stone (Owasso, OK) P/S # m001156603	23
Mine Chat	Joplin Cement (Joplin, MO) P/S # m002168303	30
Man. Sand	Anchor Stone (Owasso, OK) P/S # m001156603	20
Scrns.	Anchor Stone (Owasso, OK) P/S # m001156603	12
Sand	Anchor Stone (Jenks, OK) P/S # m008967235	15

Asphalt Cement: Asphaltic Cement Type PG 70-28 OK, acem002, HollyFrontier (Catoosa, OK), m01028
(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-

Producer/Supplier:	Anchor Stone (Owasso, OK) P/S # m001156603	Joplin Cement (Joplin, MO) P/S # m002168303	Anchor Stone (Owasso, OK) P/S # m001156603	Anchor Stone (Owasso, OK) P/S # m001156603	Anchor Stone (Jenks, OK) P/S # m008967235								
Sieve Size	3/4" Chips	Mine Chat	Man. Sand	Scrns.	Sand				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)	71	100	100	100	100				93	93	86	100	7
3/8 in (9.5 mm)	49	100	100	99	100				88	88	81	95	7
#4 (4.75 mm)	11	44	93	77	98				58	58	51	65	7
#8 (2.36 mm)	3	11	66	56	90				37	37	32	42	5
#16 (1.18 mm)	1	4	38	39	75				25	25	21	29	4
#30 (.600 mm)	1	2	19	26	54				16	16	12	20	4
#50 (.300 mm)	1	2	8	18	26				8	8	4	12	4
#100 (.150 mm)	1	2	5	16	3				4	4	1	7	3
#200 (.075 mm)	1.3	2.4	3.8	14.7	2.4				3.9	3.9	1.9	5.9	2
AC Content %									6.1	5.7	5.3	6.1	0.4 x

	°F (°C)	Required
Mix temperature @ discharge from mixer:	325 (163)	± 20 °F (± 10 °C)
Optimum roadway compaction temperature:	305 (152)	
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	7	87.0	85.5 - 90.5
Ndes	65		96.0

Tests on Aggregates		Required		Units
Durability Index	67	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated	0	10	max.	%
Fractured Faces	100/100	95/90	min.	%
Insoluble Residue	42.2	40	min.	%
LA Abrasion	25	40	max.	%
Micro-Deval	19.1	N/A		%
Permeability	11	12.5	max.	10^{-5}cm/s
Sand Equivalent	88	45	min.	%
IOC	0.27			%
Gse	2.636			
Gsb	2.558			
Specimen Weight	4650			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required Design / Field	% VMA	% VMA Required Design / Field	% VFA	% VFA Required
5.5	2.277	2.422	94.0	96.0 / 94.5 - 97.4	15.9	14.5 / 14.0	62.3	72 - 77
6.0	2.300	2.404	95.7		15.5		72.3	
6.5	2.307	2.386	96.7		15.7		79.0	

Dust Prop.	Dust Prop. Req.
0.9	0.6 - 1.6
0.8	
0.7	

ITS (PSI) 112.7 N/A min.
TSR 0.82 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 106.2 @ 6.1 % Asphalt Cement

x 1st JMF Revision

Hamburg Rut Test Depth (mm) 1.73 12.50 max. @ 15,000 cycles

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

Comments: Revised JMF by contractor: Effective 8/3/2018

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

Date: 10/12/2018
(mm/dd/yyyy)