Version: V03.40

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)

Millennial Asphalt P/S # m01104
(Producer/Supplier Name and Producer/Supplier Code)

S3pv0441702200
(Mix ID)

Millenial Asphalt,Inc. PLANT ID # m01104-01
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
#57 Rock	Greenhill Materials Co. (Catoosa, OK) P/S # m001956605	25
3/8" Chips	Greenhill Materials Co. (Catoosa, OK) P/S # m001956605	20
Man. Sand	Greenhill Materials Co. (Catoosa, OK) P/S # m001956605	21
Drag Sand	Mine Chat @ Tri City Area P/S # MineChat	8
Fine R.A.P.	Contractor / Project Site P/S # Contractor	25
B. H. Fines	Contractor / Project Site P/S # Contractor	1

Asphalt Cement: Asphaltic Cement Type PG 64-22 OK, acem003, Lion Oil Frontier (Muskogee, OK), m01021
(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:	Greenhill Materials Co. (Catoosa, OK) P/S # m001956605	Greenhill Materials Co. (Catoosa, OK) P/S # m001956605	Greenhill Materials Co. (Catoosa, OK) P/S # m001956605	Mine Chat @ Tri City Area P/S # MineChat	Contractor / Project Site P/S # Contractor	Contractor / Project Site P/S # Contractor							
Sieve Size	#57 Rock	3/8" Chips	Man. Sand	Drag Sand	Fine R.A.P.	B. H. Fines			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)	87	100	100	100	100	100			97	***97***	*90*	*100*	*7*
1/2 in (12.5 mm)	55	100	100	100	99	100			89	***89***	*82*	*96*	*7*
3/8 in (9.5 mm)	11	99	100	100	95	100			76	***76***	*69*	*83*	*7*
#4 (4.75 mm)	2	30	99	93	73	100			54	***54***	*47*	*61*	*7*
#8 (2.36 mm)	2	4	78	60	57	100			38	***38***	*33*	*43*	*5*
#16 (1.18 mm)	2	2	44	33	40	100			24	***24***	*20*	*28*	*4*
#30 (.600 mm)	2	2	23	19	32	100			16	***16***	*12*	*20*	*4*
#50 (.300 mm)	2	2	15	12	24	100			12	***12***	*8*	*16*	*4*
#100 (.150 mm)	2	2	8	4	15	100			8	***8***	*5*	*11*	*3*
#200 (.075 mm)	1.3	1.3	5.0	2.0	10.1	100.0			5.3	***5.3***	*3.3*	*7.3*	*2*
AC Content %					5.0				4.8	***4.8***	*4.4*	*5.2*	*0.4*

	°F (°C)	Required
Mix temperature @ discharge from mixer:		± 20 °F (± 10 °C)
Optimum roadway compaction temperature:		
Laboratory mixing temperature:		
Laboratory compaction temperature:		

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	87.5	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates		Required		Units
Durability Index	62	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated	2	10	max.	%
Fractured Faces	100/100	85/80	min.	%
Insoluble Residue	9.2	N/A		%
LA Abrasion	29.5	40	max.	%
Micro-Deval	20.4	N/A		%
Permeability	3.4	12.5	max.	10^{-5}cm/s
Sand Equivalent	86	40	min.	%
IOC	0.39			%
Gse	2.658			
Gsb	2.611			
Specimen Weight	4865			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required Design / Field	% VMA	% VMA Required Design / Field	% VFA	% VFA Required
4.4	2.350	2.480	94.8		14.0		62.9	
4.9	2.367	2.461	96.2	96.0 / 94.5 - 97.4	13.8	13.5 / 13.0	72.5	70 - 75
5.4	2.383	2.443	97.5		13.7		81.8	

Dust Prop.	Dust Prop. Req.
1.4	
1.3	0.6 - 1.6
1.1	

ITS (PSI) 140.2 N/A min.
TSR 0.91 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 108.4 @ 4.8 % Asphalt Cement
3.5 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 2.70 12.50 max. @ 10,000 cycles

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

Comments:

Last Modified By: Smith, Jerry D. jsmith
(User Name and User ID)

Date: 12/10/2017
(mm/dd/yyyy)