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)

J & R Sand Co P/S # m00560
(Producer/Supplier Name and Producer/Supplier Code)

WS3qc0611400101
(Mix ID)

J & R Sand Co (Portable) - 350TPH PLANT ID # m00560-01
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
3/4" Chips	Dolese Co (Cooperton, OK) P/S # m002723801	10
3/4" Chips	Klotz Sand and Gravel (Lakin, KS) P/S # m008758021	16
Scrns.	Klotz Sand and Gravel (Lakin, KS) P/S # m008758021	38
Sand	J & R Sand Co, Winchell Pit (Beaver Co., OK) P/S # m002050402	11
Coarse R.A.P.	Contractor / Project Site P/S # Contractor	25

Warm Mix Asphalt (WMA) Technology: EVOTHERM (Chem. Add.) qual028 Mead Westvaco Asphalt Innovations m00798
(Product Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)

Asphalt Cement: Asphaltic Cement Type PG 64-22 OK, acem003, Valero Mckee (Sunray, TX), m00311
(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	Dolese Co (Cooperton, OK) P/S # m002723801	Klotz Sand and Gravel (Lakin, KS) P/S # m008758021	Klotz Sand and Gravel (Lakin, KS) P/S # m008758021	J & R Sand Co, Winchell Pit (Beaver Co., OK) P/S # m002050402	Contractor / Project Site P/S # Contractor				Comb. Agg.	JMF	Min.	Max.	% Tol. (±)	
	3/4" Chips	3/4" Chips	Scrns.	Sand	Coarse R.A.P.									
1 in (25 mm)	100	100	100	100	100				100	**100**	100	100	0	
3/4 in (19 mm)	100	100	100	100	100				100	**100**	93	100	7	
1/2 in (12.5 mm)	40	62	100	100	96				87	**87**	80	94	7	
3/8 in (9.5 mm)	9	36	97	100	90				77	**77**	70	84	7	
#4 (4.75 mm)	3	5	76	99	76				60	**60**	53	67	7	
#8 (2.36 mm)	1	3	52	88	59				45	**45**	40	50	5	
#16 (1.18 mm)	1	2	34	64	47				32	**32**	28	36	4	
#30 (.600 mm)	1	2	23	34	36				22	**22**	18	26	4	
#50 (.300 mm)	1	2	14	12	24				13	**13**	9	17	4	
#100 (.150 mm)	1	2	9	2	14				8	**8**	5	11	3	
#200 (.075 mm)	1.0	1.1	5.5	1.5	9.4				4.9	**4.9**	2.9	6.9	2	
AC Content %					5.4				4.4	**4.8**	4.4	5.2	0.4	x

Warm Mix Asphalt (WMA) Additive % 0.4

	°F (°C)	Required
Mix temperature @ discharge from mixer:	275 (135)	± 20 °F (± 10 °C)
Optimum roadway compaction temperature:	235 (113)	
Laboratory mixing temperature:	285 (141)	
Laboratory compaction temperature:	245 (118)	

Tests on Asphalt Cement	Found
Specific Gravity @ 77 ° F	1.0100

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

Tests on Compressed Mixtures (@ Design AC)	# Gyr.	% Density of Gmm	% Density Required
Nini	6	90.3	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates		Required		Units
Durability Index	84	40	min.	%
F.A.A. %U	45	N/A		%
Flat and Elongated	0	10	max.	%
Fractured Faces	92/98	85/80	min.	%
Insoluble Residue	60.7	N/A		%
LA Abrasion	30	40	max.	%
Micro-Deval	16.4	N/A		%
Permeability	1.5	12.5	max.	10^{-5}cm/s
Sand Equivalent	73	40	min.	%
Pba	0.38			
IOC	0.09			%
Gse	2.640			
Gsb	2.614			
Specimen Weight	4750			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required Design / Field	% VMA	% VMA Required Design / Field	% VFA	% VFA Required
3.9	2.347	2.484	94.5	96.0 / 94.5 - 97.4	13.7	13.5 / 13.0	59.9	70 - 75
4.4	2.366	2.465	96.0		13.5		70.4	
4.9	2.380	2.447	97.3		13.4		79.9	

Dust Prop.	Dust Prop. Req.
1.4	0.6 - 1.6
1.2	
1.1	

ITS (PSI) 127.3 N/A min.
TSR 0.84 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 107.8 @ 4.4 % Asphalt Cement
3.0 % New Asphalt Cement

x 1st JMF Revision

Hamburg Rut Test Depth (mm) 4.16 12.50 max. @ 10,000 cycles

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

Comments: REVISED (AC) Effective 8/22/16 per contractor's request.

Last Modified By: Schratwieser, Edward P. eschratw
(User Name and User ID)

Date: 8/25/2016
(mm/dd/yyyy)