Table of Hot Mix Asphaltic Concrete Parameters

City of Omaha Public Works Department (01-11-06)

MIX DESCRIPTION	FINE MIX (FM)			COARSE MIX (CM)			BASE COURSE	WEDGE COURSE	METRO AREA HOT MIX
	SURFACE TYPE FMR	SURFACE TYPE FMC	SURFACE TYPE FMM	SURFACE TYPE CMR	SURFACE TYPE CMC	SURFACE TYPE CMM			
APPLICATION	THIN OVERLAY : PARKING OR ROADWAY without trucks	THIN OVERLAY / LEVELING : RESIDENTIAL OR COLLECTOR	THIN OVERLAY / LEVELING : MAJOR	SURFACE COURSE : PARKING OR ROADWAY without trucks	SURFACE COURSE : RESIDENTIAL OR COLLECTOR	SURFACE COURSE : MAJOR	BASE COURSE : FLEXIBLE SUBGRADE	WEDGE COURSE : BRICK	STREET REPAIRS & PATCHING
TRAFFIC VOLUME	LIGHT	MEDIUM	HEAVY	LIGHT	MEDIUM	HEAVY	ALL	ALL	ALL
COARSE AGGREGATE CRUSHED PARTICLE NDOR	Min. 55 %	Min. 65%	Min. 85/80%*	Min. 70 %	Min. 75 %	Min. 85/80%*	—	—	—
UNCOMPACTED VOID CONTENT OF FINE AGGREGATE, AASHTO	40 % min.	42 % min.	42 % min.	40 % min.	42 % min.	42 % min.	—	—	—
FLAT AND ELONGATED PIECES	N/A	10% max.	10% max.	N/A	10% max.	10% max.	N/A	N/A	
SAND EQUIVALENT	40 min.	40 min.	45 min.	40 min.	40 min.	45 min.	40 min.		
PERFORMANCE GRADED BINDER AASHTO MP1	PG 64-22	PG 64-22	PG 70-28	PG 64-22	PG 64-22	PG 70-28	PG 64-22	PG 64-22	PG 64-22
RAP, % by total wt. of mix**	15 max**	15 max**	not allowed	15 max**	15 max**	not allowed	30 max		
MIX DESIGN AIR VOIDS, %	Target 4.0	Target 4.0	Target 4.0	Target 4.0	Target 4.0	Target 4.0	Target 4.0	Target 4.0	—
PRODUCTION AIR VOIDS, %	4.0 +/- 1	4.0 +/- 1	4.0 +/- 1	4.0 +/- 1	4.0 +/- 1	4.0 +/- 1	4.0 +/- 1	4.0 +/- 1	
VOIDS in the MINERAL AGGREGATE, %	Min. 14.0	Min. 14.0	Min. 14.0	Min. 13.0	Min. 13.0	Min. 13.0	Min. 12.0	Min. 14.0	—
VOIDS FILLED, %	65-78	65-78	65-78	65-78	65-78	65-78	50 - 80	65 - 85	—
FILM THICKNESS, microns	***	***	***	***	***	***	—	—	—
FILLER TO EFFECTIVE BINDER RATIO	0.8 - 1.6	0.8 - 1.6	0.8 - 1.6	0.8 - 1.6	0.8 - 1.6	0.8 - 1.6	0.8 - 1.6	0.8 - 1.6	—
Compaction Gyrations Ninitial	6	7	8	6	7	8	6	6	N/A
Compaction Gyrations Ndesign	50	75	100	50	75	100	50	50	N/A
Compaction Gyrations Nmaximum	75	115	160	75	115	160	75	75	N/A
% Gmm @ Nini (max.)	90.5	89.0	89.0	90.5	89.0	89.0	91.5	91.5	N/A
% Gmm @ Nmax (max.)	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	N/A
SIEVE SIZE	% passing	% passing	% passing	% passing	% passing	% passing	% passing	% passing	% passing
1"	—	—	—	—	—	—	100	—	—
3/4"	—	—	—	100	100	100	90 / 100	—	—
5/8"	—	—	—	—	—	—		—	100
1/2"	100	100	100	90 / 100	90 / 100	90 / 100	90 max.	100	—
3/8"	90 / 100	90 / 100	90 / 100	90 max.	90 max.	90 max.		90 / 100	90 / 100
# 4	90 max.	90 max.	90 max.	—	—	—		90 max.	65 / 89
# 8	32 / 67	32 / 67	32 / 67	28 / 58	28 / 58	28 / 58	23 / 49	32 / 67	45 / 65
# 200	2 / 10	2 / 10	2 / 10	2 / 10	2 / 10	2 / 10	2 / 10	2 / 10	4 / 12
COMPACTION DENSITY ASTM D2041 (% RICE) Mat Compaction	92 Minimum	92 Minimum - 94 Target Maximum	92 Minimum - 94 Target Maximum	92 Minimum	92 Minimum - 94 Target Maximum	92 Minimum - 94 Target Maximum	90 Minimum	90 Minimum	90 Minimum
COMPACTION DENSITY ASTM D2041 (% RICE) Joint Compaction	90 Minimum	90 Minimum	90 Minimum	90 Minimum	90 Minimum	90 Minimum	90 Minimum	90 Minimum	90 Minimum

* "85/80" denotes that 85% of the coarse aggregate has one or more fractured faces and 80% has two or more fractured faces

* *Recycled Asphalt Pavement (RAP) must be specified in the contract documents as an allowable option for FMR, FMC, CMR, & CMC surface mixes otherwise, not to be used

Recycled Asphalt Pavment (RAP) is allowed at the specified percentage in the Base Course Mix

*** A minimum film thickness of 9 microns will be used as a parameter to establish optimum asphalt content during the mix design