

Concrete Mixture Analysis Worksheet

Project Name: Miscellaneous Mix Designs
 Client Name: Daytona Redi Mix
 MDOT Project #: Various
 Maximum Aggregate Size (inches): 1.5

Date: 5/7/2024
 CT Project #: 230408
 Mix ID #: 4500HP (Slag - Mid-Range)

MATERIALS				
Type	Source	Class	Spec. Grav.	F/T Dialation
Coarse	Manitoulin (MDOT 95-0005CA)	6AA	2.82	0.001
Intermediate	Port Inland (MDOT 74-0005CA)	26A	2.68	0.036
			1.00	
Fine	Krake-Measel (MDOT 44-0051SG)	2NS	2.68	
Cement	Ash Grove - Missisauga	Type IL	3.10	
GGBFS	Ash Grove - Detroit	100	2.91	
ADMIXTURES				
Type	Supplier	Dosage (oz/cwt)		
SA-50	MAPEI	0.8		
Dynamon SX	MAPEI	5		

PROPORTIONS (SSD)				
Type	Wt. lbs.	Sp. Grav.	Vol. ft ³	% Vol.
Cement	423	3.1	2.19	
GGBFS	141	2.91	0.78	
Coarse	1640	2.82	9.32	50.22
Intermediate	300	2.68	1.79	9.67
		1.00	0.00	0.00
Fine	1245	2.68	7.44	40.11
Water	237	1	3.80	
Air, %	6.5		1.76	
				27.07
Total Cementitious:		564	lbs. or	6.0 bag
Water/Cement Ratio:		0.44		
Percent Cementitious Replacement:		25%		

	GRADATIONS								Gradation Date: <u>5/7/2024</u>			
	Coarse		Intermediate		0		Fine					
	SSD wt., lbs	1640	300	0	1245					Total % Passing	% Cumm. Retained	Retained Sieve, %
Abs. Volume	9.32	1.79	0.00	7.44								
Aggregate % Vol.	50.2	9.7	0.0	40.1								
Sieves	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix				
2"	100	50.2	100	9.7	0.0	0.0	100	40.1	100.0	0.0	0.0	
1 1/2"	100	50.0	100	9.7	0.0	0.0	100	40.1	99.8	0.2	0.2	
1"	100	50.2	100	9.7	0.0	0.0	100	40.1	100.0	0.0	-0.2	
3/4"	81	40.7	100	9.7	0.0	0.0	100	40.1	90.5	9.5	9.5	
1/2"	48	24.1	98	9.5	0.0	0.0	100	40.1	73.7	26.3	16.8	
3/8"	23	11.6	83	8.0	0.0	0.0	100	40.1	59.7	40.3	14.0	
# 4	5	2.5	16	1.5	0.0	0.0	99	39.7	43.8	56.2	15.9	
# 8	4	2.0	5	0.5	0.0	0.0	84	33.7	36.2	63.8	7.6	
# 16	3	1.5	3	0.3	0.0	0.0	65	26.1	27.9	72.1	8.3	
# 30	3	1.5	2	0.2	0.0	0.0	49	19.7	21.4	78.6	6.5	
# 50	3	1.5	2	0.2	0.0	0.0	23	9.2	10.9	89.1	10.4	
# 100	2	1.0	2	0.2	0.0	0.0	5	2.0	3.2	96.8	7.7	
# 200	2	1.1	2	0.2	0.0	0.0	1	0.4	1.6	98.4	1.6	

Fine Aggregate Fineness Modulus: 2.75 FM

Coarseness Factor (x-axis): 63
((cumm. Ret 3/8 / cumm. Ret #8) x 100)

Workability Factor (y-axis): 36
(Pass #8 + Adjustment Factor)

