

Concrete Mixture Analysis Worksheet

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

Date: 4/23/2024
 CT Project #: 230408
 Mix ID #: 3500HP (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	395	3.1	2.04	
GGBFS	131	2.91	0.72	
Coarse	1645	2.82	9.35	49.42
Intermediate	300	2.68	1.79	9.48
		1.00	0.00	0.00
Fine	1300	2.68	7.77	41.10
Water	231	1	3.70	
Air, %	6.5		1.76	
			27.14	
Total Cementitious:	526	lbs.	or	5.6 bag
Water/Cement Ratio:	0.44			
Percent Cementitious Replacement:	25%			

	GRADATIONS								Gradation Date: <u>4/23/2024</u>			
	Coarse		Intermediate		0		Fine					
SSD wt., lbs	1645		300		0		1300					
Abs. Volume	9.35		1.79		0.00		7.77					
Aggregate % Vol.	49.4		9.5		0.0		41.1					
Sieves	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix	Total % Passing	% Cumm. Retained	Retained Sieve, %	Retained Spec. %
2"	100	49.4	100	9.5	0.0	0.0	100	41.1	100.0	0.0	0.0	
1 1/2"	100	49.2	100	9.5	0.0	0.0	100	41.1	99.8	0.2	0.2	
1"	100	49.4	100	9.5	0.0	0.0	100	41.1	100.0	0.0	-0.2	
3/4"	78	38.5	100	9.5	0.0	0.0	100	41.1	89.1	10.9	10.9	
1/2"	47	23.2	96	9.1	0.0	0.0	100	41.1	73.4	26.6	15.7	
3/8"	22	10.9	82	7.8	0.0	0.0	100	41.1	59.7	40.3	13.7	
# 4	4	2.0	15	1.4	0.0	0.0	99	40.7	44.1	55.9	15.7	
# 8	3	1.5	4	0.4	0.0	0.0	83	34.1	36.0	64.0	8.1	
# 16	3	1.5	3	0.3	0.0	0.0	66	27.1	28.9	71.1	7.1	
# 30	3	1.5	2	0.2	0.0	0.0	49	20.1	21.8	78.2	7.1	
# 50	3	1.5	2	0.2	0.0	0.0	24	9.9	11.5	88.5	10.3	
# 100	2	1.0	2	0.2	0.0	0.0	5	2.1	3.2	96.8	8.3	
# 200	2	1.0	2	0.2	0.0	0.0	1	0.5	1.7	98.3	1.6	

Fine Aggregate Fineness Modulus: 2.74 FM

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

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

