

Concrete Mixture Analysis Worksheet

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

Date: 5/28/2024
 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	50.38
Intermediate	290	2.68	1.73	9.37
		1.00	0.00	0.00
Fine	1245	2.68	7.44	40.24
Water	237	1	3.80	
Air, %	6.5		1.76	
27.02				
Total Cementitious:	564	lbs. or	6.0	bag
Water/Cement Ratio:	0.44			
Percent Cementitious Replacement:	25%			

	GRADATIONS								Gradation Date: <u>5/28/2024</u>			
	Coarse		Intermediate		0		Fine					
SSD wt., lbs	1640		290		0		1245					
Abs. Volume	9.32		1.73		0.00		7.44					
Aggregate % Vol.	50.4		9.4		0.0		40.2					
Sieves	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix	Total % Passing	% Cumm. Retained	Retained Sieve, %	Retained Spec. %
2"	100	50.4	100	9.4	0.0	0.0	100	40.2	100.0	0.0	0.0	
1 1/2"	100	50.2	100	9.4	0.0	0.0	100	40.2	99.8	0.2	0.2	
1"	100	50.4	100	9.4	0.0	0.0	100	40.2	100.0	0.0	-0.2	
3/4"	82	41.3	100	9.4	0.0	0.0	100	40.2	90.9	9.1	9.1	
1/2"	46	23.2	96	9.0	0.0	0.0	100	40.2	72.4	27.6	18.5	
3/8"	20	10.1	83	7.8	0.0	0.0	100	40.2	58.1	41.9	14.3	
# 4	4	2.0	15	1.4	0.0	0.0	98	39.4	42.9	57.1	15.2	
# 8	3	1.5	5	0.5	0.0	0.0	83	33.4	35.4	64.6	7.5	
# 16	2	1.0	3	0.3	0.0	0.0	66	26.6	27.9	72.1	7.5	
# 30	2	1.0	3	0.3	0.0	0.0	51	20.5	21.8	78.2	6.0	
# 50	2	1.0	2	0.2	0.0	0.0	23	9.3	10.5	89.5	11.4	
# 100	2	1.0	2	0.2	0.0	0.0	3	1.2	2.4	97.6	8.0	
# 200	2	0.8	2	0.2	0.0	0.0	1	0.5	1.4	98.6	1.0	

Fine Aggregate Fineness Modulus: 2.76 FM

Coarseness Factor (x-axis): 65
 ((cumm. Ret 3/8 / cumm. Ret #8) x 100)

Workability Factor (y-axis): 35
 (Pass #8 + Adjustment Factor)

