

Concrete Mixture Analysis Worksheet

Project Name: I-96 Flex Route
 Client Name: Daytona Redi Mix
 MDOT Project #: 63022-124103
 Maximum Aggregate Size (inches): 2

Date: 4/16/24
 CT Project #: 230408
 Mix ID #: BW-007 (Slipform)

MATERIALS				
Type	Source	Class	Spec. Grav.	F/T Dialation
Coarse	Stoneco-Ottawa Lake (58-0003CA)	CA	2.69	0.010
Intermediate 1	Stoneco-Ottawa Lake (58-0003CA)	IA	2.68	0.010
			1.00	
Fine	Mid Michigan-Vella (81-0101SG)	Fine	2.64	
Cement	Ash Grove-Missisauga	Type IL	3.10	
GGBFS	Ash Grove-Detroit	Grade 100	2.91	
ADMIXTURES				
Type	Supplier	Dosage (oz/cwt)		
Mapair SA	MAPEI	3.5		
Mapetard R	MAPEI	3		

PROPORTIONS (SSD)				
Type	Wt. lbs.	Sp. Grav.	Vol. ft ³	% Vol.
Cement	458	3.1	2.37	
GGBFS	153	2.91	0.84	
Coarse	1430	2.69	8.52	46.66
Intermediate 1	400	2.68	2.39	13.10
		1.00	0.00	0.00
Fine	1210	2.64	7.35	40.23
Water	238	1	3.81	
Air, %	6.5		1.76	
27.04				
Total Cementitious:	611	lbs.	or	6.5 bag
Water/Cement Ratio:	0.39			
Percent Cementitious Replacement:	25%			

	GRADATIONS								Gradation Date: <u>4/16/2024</u>									
	Coarse		Intermediate 1		Fine		Fine		Total % Passing	% Cumm. Retained	Retained Sieve, %	Retained Spec. %						
	SSD wt., lbs	Abs. Volume	Aggregate % Vol.	% Pass	% Mix	% Pass	% Mix	% Pass					% Mix					
	1430	8.52	46.7	100.0	46.7	400	2.39	13.1	100.0	46.7	0	0.00	7.35	40.2				
Sieves	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix								
2"	100.0	46.7	100.0	13.1	0.0	0.0	100.0	40.2	100.0	0.0	0.0	0.0						
1 1/2"	100.0	46.7	100.0	13.1	0.0	0.0	100.0	40.2	100.0	0.0	0.0	0.0						
1"	70.0	32.7	100.0	13.1	0.0	0.0	100.0	40.2	86.0	14.0	14.0							
3/4"	40.0	18.7	100.0	13.1	0.0	0.0	100.0	40.2	72.0	28.0	14.0							
1/2"	18.0	8.4	94.0	12.3	0.0	0.0	100.0	40.2	60.9	39.1	11.1							
3/8"	10.0	4.7	79.0	10.4	0.0	0.0	100.0	40.2	55.3	44.7	5.7							
# 4	3.0	1.4	15.0	2.0	0.0	0.0	96.0	38.6	42.0	58.0	13.3							
# 8	2.0	0.9	6.0	0.8	0.0	0.0	83.0	33.4	35.1	64.9	6.9							
# 16	2.0	0.9	4.0	0.5	0.0	0.0	65.0	26.2	27.6	72.4	7.5							
# 30	2.0	0.9	3.0	0.4	0.0	0.0	46.0	18.5	19.8	80.2	7.8							
# 50	2.0	0.9	3.0	0.4	0.0	0.0	16.0	6.4	7.8	92.2	12.1							
# 100	2.0	0.9	3.0	0.4	0.0	0.0	2.0	0.8	2.1	97.9	5.6							
# 200	1.5	0.7	2.5	0.3	0.0	0.0	1	0.4	1.4	98.6	0.7							

Fine Aggregate Fineness Modulus: 2.92 FM

Coarseness Factor (x-axis): 69
 ((cumm. Ret 3/8 / cumm. Ret #8) x 100)

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

