

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: 4/1/2024
 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 II	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	1325	2.69	7.89	43.30
Intermediate 1	500	2.68	2.99	16.40
		1.00	0.00	0.00
Fine	1210	2.64	7.35	40.29
Water	238	1	3.81	
Air, %	6.5		1.76	
				27.01
Total Cementitious:		611	lbs. or	6.5 bag
Water/Cement Ratio:		0.39		
Percent Cementitious Replacement:		25%		

SSD wt., lbs	GRADATIONS								Gradation Date: <u>4/1/2024</u>			
	Coarse		Intermediate 1		Fine		Fine		Total % Passing	% Cumm. Retained	Retained Sieve, %	Retained Spec. %
	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix				
	1325		500		0		1210					
Abs. Volume	7.89		2.99		0.00		7.35					
Aggregate % Vol.	43.3		16.4		0.0		40.3					
Sieves	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix	Total % Passing	% Cumm. Retained	Retained Sieve, %	Retained Spec. %
2"	100.0	43.3	100.0	16.4	0.0	0.0	100.0	40.3	100.0	0.0	0.0	0.0
1 1/2"	100.0	43.3	100.0	16.4	0.0	0.0	100.0	40.3	100.0	0.0	0.0	0.0
1"	60.0	26.0	100.0	16.4	0.0	0.0	100.0	40.3	82.7	17.3	17.3	17.3
3/4"	24.0	10.4	100.0	16.4	0.0	0.0	100.0	40.3	67.1	32.9	15.6	15.6
1/2"	15.0	6.5	94.0	15.4	0.0	0.0	100.0	40.3	62.2	37.8	4.9	4.9
3/8"	9.0	3.9	78.0	12.8	0.0	0.0	100.0	40.3	57.0	43.0	5.2	5.2
# 4	3.0	1.3	13.0	2.1	0.0	0.0	96.0	38.7	42.1	57.9	14.9	14.9
# 8	3.0	1.3	5.0	0.8	0.0	0.0	83.0	33.4	35.6	64.4	6.6	6.6
# 16	2.0	0.9	3.0	0.5	0.0	0.0	66.0	26.6	28.0	72.0	7.6	7.6
# 30	2.0	0.9	3.0	0.5	0.0	0.0	48.0	19.3	20.7	79.3	7.3	7.3
# 50	2.0	0.9	2.0	0.3	0.0	0.0	17.0	6.9	8.0	92.0	12.7	12.7
# 100	2.0	0.9	2.0	0.3	0.0	0.0	2.0	0.8	2.0	98.0	6.0	6.0
# 200	2.0	0.9	2.0	0.3	0.0	0.0	1	0.4	1.6	98.4	0.4	0.4

Fine Aggregate Fineness Modulus: 2.88 FM

Coarseness Factor (x-axis): 67
 ((cumm. Ret 3/8 / cumm. Ret #8) x 100)

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

