

Concrete Mixture Analysis Worksheet

Project Name: I-696 (I-275 to Lahser)
 Contractor Name: Daytona Redi Mix
 MDOT Project #: 63101-131589
 Maximum Aggregate Size (inches): 1.5

Representative Date: 04/30/24 through 05/07/24
 CT Project #: 230408
 Mix ID #: BW-008 (Handwork)

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 1L	3.10	
GGBFS	Ash Grove-Detroit	Grade 100	2.91	
ADMIXTURES				
Type	Supplier	Dosage (oz/cwt)		
Mapair SA	MAPEI	3.5		
DynamonSX	MAPEI	5		

PROPORTIONS (SSD)				
Type	Wt. lbs.	Sp. Grav.	Vol. ft ³	% Vol.
Cement	458	3.1	2.37	
GGBFS	153	2.91	0.84	
Coarse	1475	2.69	8.79	49.02
Intermediate 1	300	2.68	1.79	10.01
		1.00	0.00	0.00
Fine	1210	2.64	7.35	40.97
27.01				
Water	257	1	4.12	
Air, %	6.5		1.76	
Total Cementitious:		611	lbs. or	6.5 bag
Water/Cement Ratio:		0.42		
Percent Cementitious Replacement:		25%		

	GRADATIONS								Gradation Date: <u>4/30/2024</u>			
	Coarse		Intermediate 1		Fine		Fine					
	SSD wt., lbs	1475	300	0	1210					Total % Passing	% Cumm. Retained	Retained Sieve, %
Abs. Volume	8.79	1.79	0.00	7.35								
Aggregate % Vol.	49.0	10.0	0.0	41.0								
Sieves	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix	% Pass	% Mix				
2"	100.0	49.0	100.0	10.0	0.0	100.0	41.0	100.0	0.0	0.0	0.0	
1 1/2"	100.0	49.0	100.0	10.0	0.0	100.0	41.0	100.0	0.0	0.0	0.0	
1"	69.0	33.8	100.0	10.0	0.0	100.0	41.0	84.8	15.2	15.2		
3/4"	43.0	21.1	100.0	10.0	0.0	100.0	41.0	72.1	27.9	12.7		
1/2"	23.0	11.3	97.0	9.7	0.0	100.0	41.0	62.0	38.0	10.1		
3/8"	14.0	6.9	72.0	7.2	0.0	100.0	41.0	55.0	45.0	6.9		
# 4	3.0	1.5	12.0	1.2	0.0	98.0	40.2	42.8	57.2	12.2		
# 8	2.0	1.0	4.0	0.4	0.0	84.0	34.4	35.8	64.2	7.0		
# 16	1.0	0.5	2.0	0.2	0.0	69.0	28.3	29.0	71.0	6.8		
# 30	1.0	0.5	2.0	0.2	0.0	52.0	21.3	22.0	78.0	7.0		
# 50	1.0	0.5	1.0	0.1	0.0	19.0	7.8	8.4	91.6	13.6		
# 100	1.0	0.5	1.0	0.1	0.0	3.0	1.2	1.8	98.2	6.6		
# 200	1.1	0.5	1.2	0.1	0.0	1	0.5	1.1	98.9	0.7		

Fine Aggregate Fineness Modulus: 2.75 FM

Coarseness Factor (x-axis): 70
((cumm. Ret 3/8 / cumm. Ret #8) x 100)

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

