

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: 4/23/24 through 4/30/24
 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 II	3.10	
GGBFS	Ash Grove-Detroit	Grade 100	2.91	
ADMIXTURES				
Type	Supplier	Dosage (oz/cwt)		
Mapeair 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
Fine	1210	2.64	7.35	40.97
Water	257	1	4.12	
Air, %	6.5		1.76	
			27.01	
Total Cementitious:	611	lbs. or	6.5	bag
Water/Cement Ratio:			0.42	
Percent Cementitious Replacement:			25%	

	GRADATIONS								Gradation Date: <u>4/23/2024</u>			
	Coarse		Intermediate 1		Fine		Fine		Total % Passing	% Cumm. Retained	Retained Sieve, %	Retained Spec. %
SSD wt., lbs	1475		300		0		1210					
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		
1 1/2"	100.0	49.0	100.0	10.0	0.0	100.0	41.0	100.0	0.0	0.0		
1"	71.0	34.8	100.0	10.0	0.0	100.0	41.0	85.8	14.2	14.2		
3/4"	45.0	22.1	100.0	10.0	0.0	100.0	41.0	73.0	27.0	12.7		
1/2"	25.0	12.3	97.0	9.7	0.0	100.0	41.0	62.9	37.1	10.1		
3/8"	15.0	7.4	77.0	7.7	0.0	100.0	41.0	56.0	44.0	6.9		
# 4	3.0	1.5	12.0	1.2	0.0	97.0	39.7	42.4	57.6	13.6		
# 8	2.0	1.0	3.0	0.3	0.0	82.0	33.6	34.9	65.1	7.5		
# 16	1.0	0.5	2.0	0.2	0.0	67.0	27.5	28.1	71.9	6.7		
# 30	1.0	0.5	1.0	0.1	0.0	52.0	21.3	21.9	78.1	6.2		
# 50	1.0	0.5	1.0	0.1	0.0	18.0	7.4	8.0	92.0	13.9		
# 100	1.0	0.5	1.0	0.1	0.0	2.0	0.8	1.4	98.6	6.6		
# 200	1.2	0.6	1.1	0.1	0.0	1	0.2	0.9	99.1	0.5		

Fine Aggregate Fineness Modulus: 2.82 FM

Coarseness Factor (x-axis): 68
 ((cumm. Ret 3/8 / cumm. Ret #8) x 100)

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

