

Aggregate Optimization Chart

PLANT #: **P11**

Sample Date: **12/14/23**

Dates Test Represents: **12/5/2023** through **12/11/2023**

Concrete Grade: **P1M, 3500HP**

Contractor: _____

MDOT No.: _____



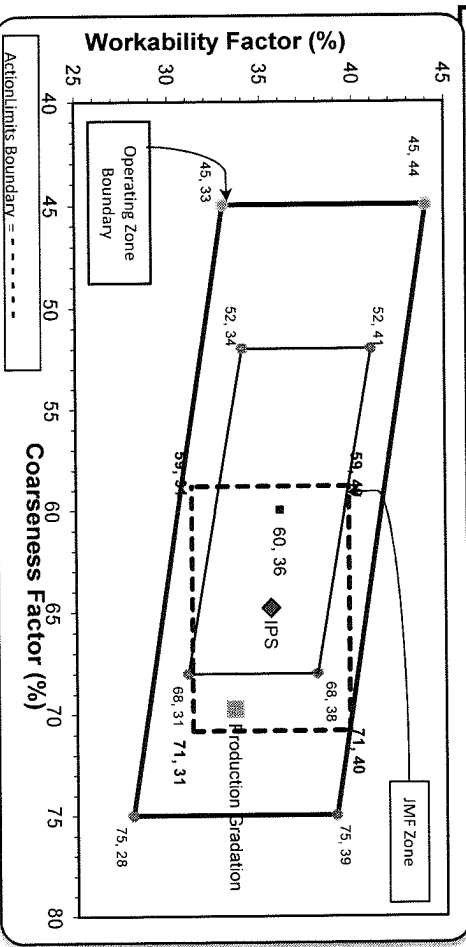
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

Agg. Class	Pit #	Source	Weight (ssn)	ft ³	Specific Gravity	Contribution %
CA	71-47	Presque Isle	1070	6.54	2.62	34.9
IA	71-47	Presque Isle	800	4.89	2.62	26.1
2NS	95-013	Smelter Bay	1200	7.26	2.65	39.1
		Total Wt	3070	18.70		100.0

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	91.6	100.0	100.0	97.1	2.9	2.9
1"	32.2	100.0	100.0	76.4	20.7	23.6
3/4"	6.7	99.0	100.0	67.2	9.1	32.8
1/2"	3.3	76.7	100.0	60.2	7.0	39.8
3/8"	2.8	52.1	100.0	53.6	6.6	46.4
#4	2.3	10.5	96.7	41.3	12.3	58.7
#8	2.2	3.5	81.5	33.5	7.8	66.5
#16	2.2	2.7	65.8	27.2	6.3	72.8
#30	2.1	2.5	49.4	20.7	6.5	79.3
#50	2.0	2.3	25.2	11.1	9.5	88.9
#100	1.8	2.2	5.7	3.4	7.7	96.6
LBW	1.5	1.8	0.9	1.3	2.1	98.7

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **70** Workability Factor: **34**



Initial Production Sample (IPS)

Coarseness Factor:	Workability Factor:	36	65
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.0	0.6	0.6
1"	84.0	15.3	16.0
3/4"	73.5	10.5	26.5
1/2"	65.2	8.2	34.8
3/8"	58.2	7.1	41.8
#4	44.1	14.1	55.9
#8	35.5	8.6	64.5
#16	29.1	6.4	70.9
#30	21.9	7.3	78.1
#50	9.6	12.2	90.4
#100	2.6	7.1	97.4
LBW	1.0	1.6	99.0

*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max.
 nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max.
 nom. max., #100 and #200 sieves.
 *% Retained must be at least 6% for the 1" sieve when
 a 2" max. size (nom. Max. 1.5") aggregate is used.



Plant S11-Onsite Jefferson

Product 7919-COARSE AGG P1M LS

Name/Title Doug Storey / QC Technician

Period: 12/03/2023 - 12/09/2023

Report Date 12/08/2023

Procedure	Sieve/Test	Result	Unit	Coarse Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	91.6	%	
	1" (25mm)	32.2	%	
	3/4" (19mm)	6.7	%	
	1/2" (12.5mm)	3.3	%	
	3/8" (9.5mm)	2.8	%	
	#4 (4.75mm)	2.3	%	
	#8 (2.36mm)	2.2	%	
	#16 (1.18mm)	2.2	%	
	#30 (.6mm)	2.1	%	
	#50 (.3mm)	2.0	%	
	#100 (.15mm)	1.8	%	
	#200 (75µm)	1.6	%	
	Wash Loss (#200/75um)	1.5	%	0-2
	Total Moisture	0.98	%	



Plant S11-Onsite Jefferson

Product 7920-INTERMED AGG P1M LS

Name/Title Doug Storey / QC Technician

Period: 12/03/2023 - 12/09/2023

Report Date 12/08/2023

Procedure	Sieve/Test	Result	Unit	Intermed Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	
	1" (25mm)	100.0	%	
	3/4" (19mm)	99.0	%	
	1/2" (12.5mm)	76.7	%	
	3/8" (9.5mm)	52.1	%	
	#4 (4.75mm)	10.5	%	
	#8 (2.36mm)	3.5	%	
	#16 (1.18mm)	2.7	%	
	#30 (.6mm)	2.5	%	
	#50 (.3mm)	2.3	%	
	#100 (.15mm)	2.2	%	
	#200 (75µm)	1.9	%	
	Wash Loss (#200/75um)	1.8	%	0-3
	Total Moisture	3.69	%	



Plant S11-Onsite Jefferson

Product 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 12/03/2023 - 12/09/2023

Report Date 12/08/2023

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.7	%	95-100
	#8 (2.36mm)	81.5	%	65-95
	#16 (1.18mm)	65.8	%	35-75
	#30 (.6mm)	49.4	%	20-55
	#50 (.3mm)	25.2	%	10-30
	#100 (.15mm)	5.7	%	0-10
	#200 (75µm)	1.2	%	
	FM	2.76		2.6-3
	Wash Loss (#200/75um)	0.9	%	0-3
	Total Moisture	4.52	%	