

Aggregate Optimization Chart

PLANT #: P11

Sample Date: 7/29/24

Concrete Grade: P1M, 3500HP

Contractor: _____

Dates Test Represents: 7/30/2024 through 8/5/2024

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1020	6.24	2.62	33.2
IA	71-47	Presque Isle	850	5.20	2.62	27.7
2NS	63-115	Ray Rd	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

<----- Verify this number is 100%



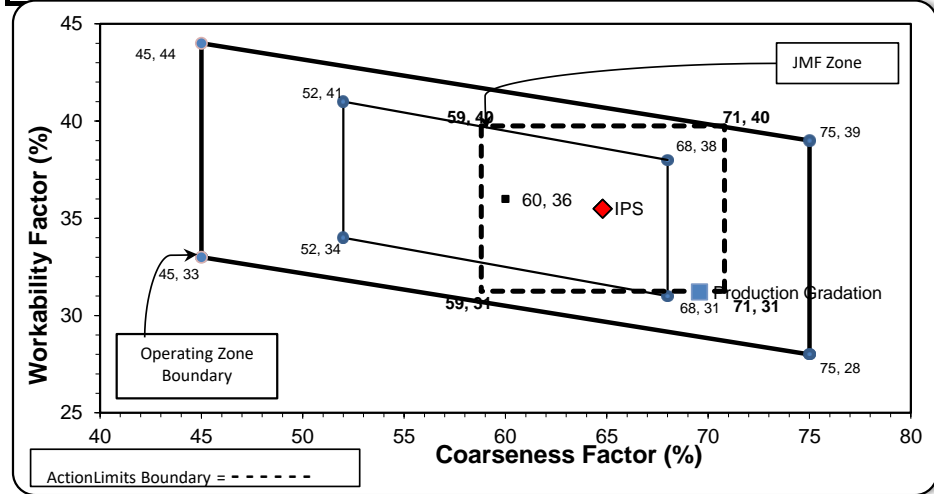
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	87.8	100.0	100.0	95.9	4.1	4.1
1"	22.6	100.0	100.0	74.3	21.7	25.7
3/4"	6.0	98.0	100.0	68.2	6.1	31.8
1/2"	1.7	72.8	100.0	59.8	8.4	40.2
3/8"	1.7	45.1	100.0	52.1	7.7	47.9
#4	1.6	6.6	95.5	39.7	12.5	60.3
#8	1.5	2.2	77.0	31.2	8.5	68.8
#16	1.5	1.6	60.5	24.6	6.6	75.4
#30	1.4	1.5	45.9	18.8	5.8	81.2
#50	1.3	1.4	27.0	11.4	7.4	88.6
#100	1.2	1.3	8.3	4.0	7.4	96.0
LBW	1.1	1.2	0.9	1.0	3.0	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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	70	Workability Factor:	31
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Initial Production Sample (IPS)

Coarseness Factor:	65		
Workability Factor:	36		
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

PREPARED BY:
 SM, LLC Technical Service

Approved By:



Daily Summary Report

Date Tuesday, July 30, 2024

	Sample Id - 674930923	-674933282	-674980765	-719225358	-674913103
Plant	S11	S11	S11	S11	S11
Product	INTERMED AGG P1M LS	2NS GR	6AA LS	26A Mod LS	COARSE AGG P1M LS
Specification	Intermed Agg P1M LS Target	2NS GR Spec	6AA LS	26A Mod LS Spec	Coarse Agg P1M LS Target
Sample Type	QA	QA	QA	QA	QA
Time	07:20	07:30	09:09	09:11	14:49
2" (50mm)	100.0		100.0	100.0	100.0
1 1/2" (37.5mm)	100.0		100.0	100.0	87.8
1" (25mm)	100.0		97.2	100.0	22.6
3/4" (19mm)	98.9		72.2	100.0	6.0
1/2" (12.5mm)	72.8		22.3	95.0	1.7
3/8" (9.5mm)	45.1	100.0	9.9	83.1	1.7
#4 (4.75mm)	6.6	95.5	2.6	17.1	1.6
#8 (2.36mm)	2.2	77.0	2.0	4.4	1.5
#16 (1.18mm)	1.6	60.5	1.9	2.9	1.5
#30 (.6mm)	1.5	45.9	1.8	2.6	1.4
#50 (.3mm)	1.4	27.0	1.7	2.4	1.3
#100 (.15mm)	1.3	8.3	1.6	2.3	1.2
#200 (75µm)	1.2	1.2	1.44	2.2	1.1
Pan	0.0	0.0	0.00	0.0	0.0
FM		2.86			
Wash Loss (#200/75um)	1.2	0.9	1.3	2.1	1.1
Total Moisture	2.30	4.67	2.99	4.27	1.24

Aggregate Optimization Chart

PLANT #: **P-102**

Sample Date: 7/29/24

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/30/2024 through 8/5/2024

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	58-003	Stoneco	1420	8.46	2.69	45.5
IA	58-003	Stoneco	500	2.98	2.69	16.0
2NS	63-114	Highland	1200	7.26	2.65	38.5
Total Wt			3120	18.70		100.0

<----- Verify this number is 100%



Superior Materials, LLC

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

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	69.5	100.0	100.0	86.1	13.9	13.9
3/4"	36.8	100.0	100.0	71.2	14.9	28.8
1/2"	14.8	94.4	100.0	60.3	10.9	39.7
3/8"	8.2	77.6	100.0	54.6	5.7	45.4
#4	2.5	22.2	98.4	42.5	12.1	57.5
#8	1.8	7.6	84.7	34.6	7.9	65.4
#16	1.6	4.0	68.5	27.7	6.9	72.3
#30	1.5	2.9	48.0	19.6	8.1	80.4
#50	1.4	2.6	18.4	8.1	11.5	91.9
#100	1.3	2.4	3.3	2.2	5.9	97.8
LBW	1.2	2.2	0.5	1.1	1.2	98.9

*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.,

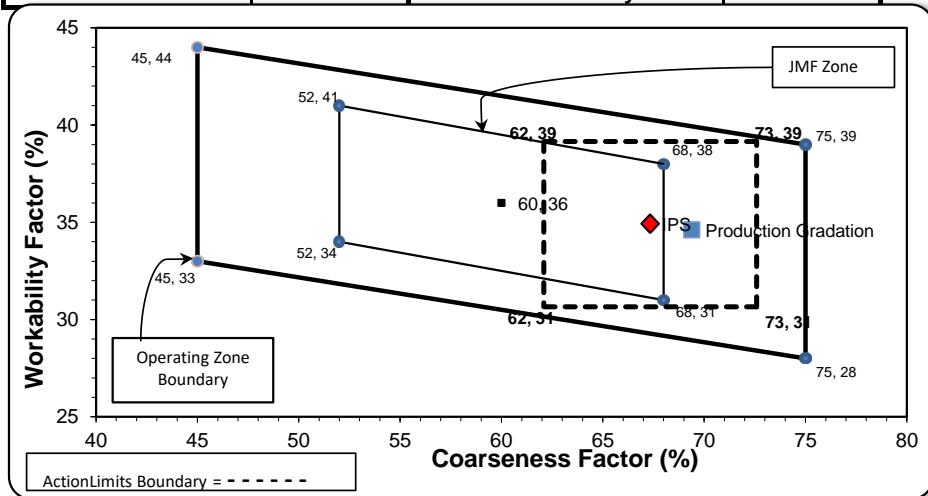
nom. max., #100 and #200 sieves.

*% Retained must be at least 8% for the 1" sieve when

a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	69	Workability Factor:	35
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Initial Production Sample (IPS)

Coarseness Factor:	67
Workability Factor:	35

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	85.5	14.5	14.5
3/4"	73.4	12.1	26.6
1/2"	61.0	12.4	39.0
3/8"	56.2	4.8	43.8
#4	43.1	13.1	56.9
#8	34.9	8.2	65.1
#16	29.4	5.5	70.6
#30	21.6	7.8	78.4
#50	8.1	13.4	91.9
#100	2.2	5.9	97.8
LBW	1.4	0.8	98.6

Approved By:

PREPARED BY:
SM, LLC Technical Service



Daily Summary Report

Date Wednesday, July 31, 2024

Sample Id	-1376933866	-674971569	-1989656476	-674971447	-674985598
Plant	S102 Superior Novi	S102 Superior Novi	S102 Superior Novi	S102 Superior Novi	S102 Superior Novi
Product	7919 COARSE AGG P1M LS	1051 6AA LS	7920 INTERMED AGG P1M LS	1067 26A Mod LS	1022 2NS GR
Specification	Coarse Agg P1M LS Target	6AA LS	Intermed Agg P1M LS Target	26A Mod LS Spec	2NS GR Spec
Sample Type	QA	QA	QA	QA	QA
Time	08:57	09:00	09:02	09:03	09:08
2" (50mm)	100.0	100.0	100.0	100.0	
1 1/2" (37.5mm)	100.0	100.0	100.0	100.0	
1" (25mm)	69.5	99.5	100.0	100.0	
3/4" (19mm)	36.8	84.0	100.0	100.0	
1/2" (12.5mm)	14.8	39.6	94.4	99.4	
3/8" (9.5mm)	8.2	18.1	77.6	88.6	100.0
#4 (4.75mm)	2.5	2.3	22.2	6.7	98.4
#8 (2.36mm)	1.8	1.5	7.6	1.8	84.7
#16 (1.18mm)	1.6	1.3	4.0	1.3	68.5
#30 (.6mm)	1.5	1.2	2.9	1.2	48.0
#50 (.3mm)	1.4	1.1	2.6	1.1	18.4
#100 (.15mm)	1.3	1.0	2.4	1.1	3.3
#200 (75µm)	1.2	0.97	2.3	1.1	0.6
Pan	0.0	0.00	0.0	0.0	0.0
FM					2.79
Wash Loss (#200/75um)	1.2	0.9	2.2	1.0	0.5
Total Moisture	2.96	2.65	4.95	4.46	3.58