

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Contractor: _____

Sample Date: **5/19/25**

Concrete Grade: **P1M, 3500HP, 4000HP**

Dates Test Represents: **5/20/2025** through **5/26/2025**

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	58-003	Stoneco	1520	9.06	2.69	48.7
IA	58-003	Stoneco	400	2.38	2.69	12.8
2NS	63-114	Highland	1200	7.26	2.65	38.5
Total Wt			3120	18.70		100.0

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

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"	61.7	100.0	100.0	81.3	18.7	18.7
3/4"	28.4	100.0	100.0	65.1	16.2	34.9
1/2"	15.5	85.5	100.0	57.0	8.1	43.0
3/8"	10.7	61.6	100.0	51.6	5.4	48.4
#4	2.5	11.2	99.0	40.7	10.8	59.3
#8	1.6	3.7	85.4	34.1	6.6	65.9
#16	1.5	2.2	71.1	28.4	5.7	71.6
#30	1.4	1.8	50.3	20.3	8.1	79.7
#50	1.4	1.6	23.0	9.7	10.5	90.3
#100	1.4	1.5	3.9	2.4	7.4	97.6
LBW	1.2	1.4	0.8	1.1	1.3	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.



Superior Materials, LLC

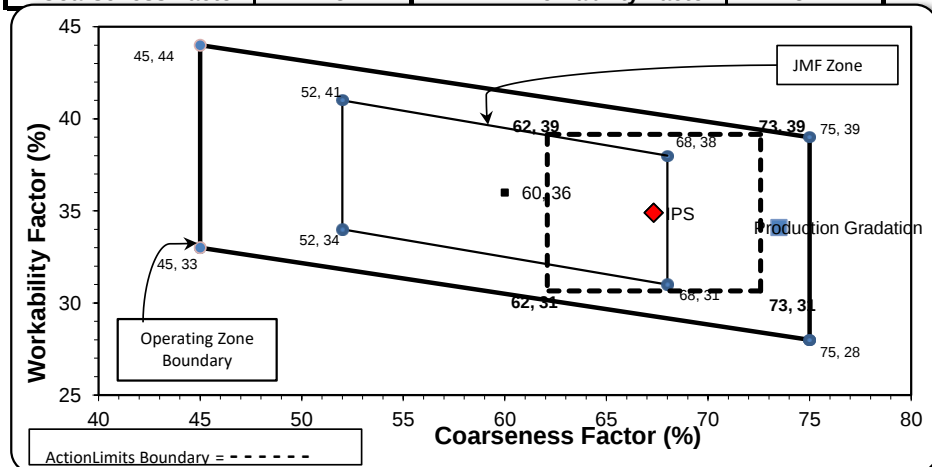
30701 W. 10 Mile Rd.

Suite 500

Farmington Hills, MI 48336

Production Gradation ☒ Batch Plant Gradations ☐ Aggregate Supplier Gradations

Coarseness Factor: **73** **Workability Factor:** **34**



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

PREPARED BY:
SM, LLC Technical Service

Approved BY:

[Signature]



Daily Summary Report

Date Tuesday, May 20, 2025

Sample Id	-674968872	-674904153	-478554699	-1124318212	-1989636650
Plant	S103 Superior Brighton	S103 Superior Brighton	S103 Superior Brighton	S103 Superior Brighton	S103 Superior Brighton
Product	7920 INTERMED AGG P1M LS	7919 COARSE AGG P1M LS	1067 26A Mod LS	1051 6AA LS	1022 2NS GR
Specification	Intermed Agg P1M LS Target	Coarse Agg P1M LS Target	26A Mod LS Spec	6AA LS	2NS GR Spec
Sample Type	QA	QA	QA	QA	QA
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)	100.0	61.7	100.0	99.4	
3/4" (19mm)	100.0	28.4	100.0	82.0	
1/2" (12.5mm)	85.5	15.5	99.3	36.4	
3/8" (9.5mm)	61.6	10.7	86.7	17.3	100.0
#4 (4.75mm)	11.2	2.5	8.0	2.0	99.0
#8 (2.36mm)	3.7	1.6	1.9	1.4	85.4
#16 (1.18mm)	2.2	1.5	1.5	1.3	71.1
#30 (.6mm)	1.8	1.4	1.3	1.2	50.3
#50 (.3mm)	1.6	1.4	1.2	1.2	23.0
#100 (.15mm)	1.5	1.4	1.1	1.1	3.9
#200 (75µm)	1.5	1.3	1.1	1.09	1.2
Pan	0.0	0.0	0.0	0.00	0.0
FM					2.67
Wash Loss (#200/75µm)	1.4	1.2	1.0	1.0	0.8
Total Moisture	2.76	1.90	3.63	2.41	3.36

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-O2**

Sample Date: 5/19/25

Dates Test Represents: 5/20/2025 through 5/26/2025

Concrete Grade: **P1M, 3500HP, 4000HP**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	970	5.93	2.62	31.6
IA	71-47	Presque Isle	900	5.50	2.62	29.3
2NS	63-115	Ray Rd	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	93.5	100.0	100.0	97.9	2.1	2.1
1"	36.4	100.0	100.0	79.9	18.0	20.1
3/4"	10.5	99.3	100.0	71.5	8.4	28.5
1/2"	4.9	81.7	100.0	64.6	6.9	35.4
3/8"	4.4	50.6	100.0	55.3	9.3	44.7
#4	3.3	7.6	96.2	40.9	14.4	59.1
#8	2.8	3.4	78.3	32.5	8.4	67.5
#16	2.6	2.6	61.7	25.7	6.8	74.3
#30	2.5	2.3	44.9	19.0	6.7	81.0
#50	2.3	2.2	22.3	10.1	8.9	89.9
#100	2.1	2.1	4.4	3.0	7.1	97.0
LBW	1.7	1.8	0.4	1.2	1.8	98.8

*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.

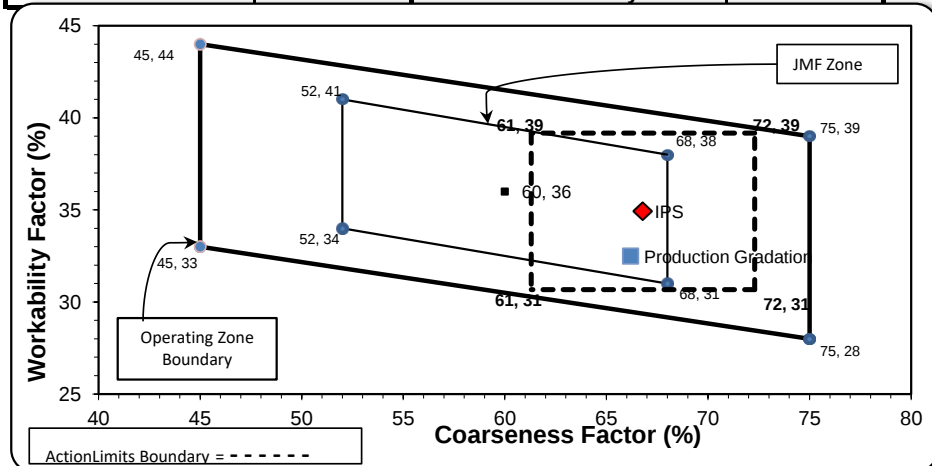


Superior Materials, LLC

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

Production Gradation ☒ Batch Plant Gradations ☐ Aggregate Supplier Gradations

Coarseness Factor:	66	Workability Factor:	32
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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"	85.0	15.0	15.0
3/4"	72.3	12.7	27.7
1/2"	64.5	7.8	35.5
3/8"	56.5	8.0	43.5
#4	42.7	13.8	57.3
#8	34.9	7.8	65.1
#16	29.0	5.9	71.0
#30	21.0	8.0	79.0
#50	8.2	12.8	91.8
#100	1.6	6.5	98.4
LBW	0.7	0.9	99.3

PREPARED BY:
SM, LLC Technical Service

Approved By:

[Signature]



Daily Summary Report

Date Monday, May 19, 2025

Sample Id	-674895493	-1989621932	-1989634237
Plant	Superior Hoover	Superior Hoover	Superior Hoover
Product	1022 2NS GR	7919 COARSE AGG P1M LS	7920 INTERMED AGG P1M LS
Specification	2NS GR Spec	Coarse Agg P1M LS Target	Intermed Agg P1M LS Target
Sample Type	QA	QA	QA
2" (50mm)		100.0	100.0
1 1/2" (37.5mm)		93.5	100.0
1" (25mm)		36.4	100.0
3/4" (19mm)		10.5	99.3
1/2" (12.5mm)		4.9	81.7
3/8" (9.5mm)	100.0	4.4	50.6
#4 (4.75mm)	96.2	3.3	7.6
#8 (2.36mm)	78.3	2.8	3.4
#16 (1.18mm)	61.7	2.6	2.6
#30 (.6mm)	44.9	2.5	2.3
#50 (.3mm)	22.3	2.3	2.2
#100 (.15mm)	4.4	2.1	2.1
#200 (75µm)	0.5	1.9	1.9
Pan	0.0	0.0	0.0
FM	2.92		
Wash Loss (#200/75um)	0.4	1.7	1.8
Total Moisture	4.74	0.44	1.17