

Aggregate Optimization Chart

PLANT #: **P-103**

Contractor: _____

Sample Date: 10/27/25

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

Dates Test Represents: 10/28/2025 through 11/3/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	58-003	Stoneco	1350	8.04	2.69	43.3
IA	58-003	Stoneco	570	3.40	2.69	18.3
2NS	63-114	Highland	1200	7.26	2.65	38.5
Total Wt			3120	18.70		100.0

----- Verify this number is 100%



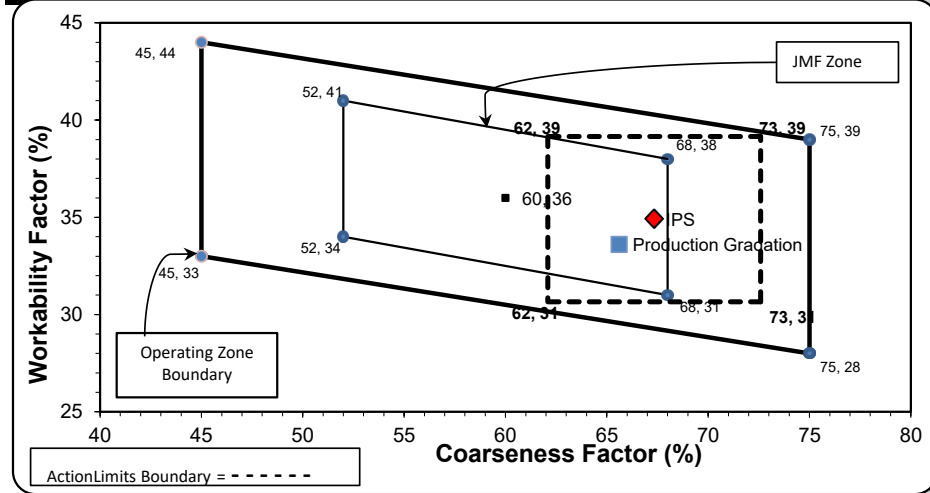
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	64.4	100.0	100.0	84.6	15.4	15.4
3/4"	34.8	100.0	100.0	71.8	12.8	28.2
1/2"	15.8	89.5	100.0	61.6	10.1	38.4
3/8"	10.1	74.5	100.0	56.4	5.2	43.6
#4	2.4	18.2	99.0	42.4	14.0	57.6
#8	1.6	2.9	84.2	33.6	8.8	66.4
#16	1.5	1.8	65.9	26.3	7.3	73.7
#30	1.4	1.6	45.1	18.2	8.1	81.8
#50	1.2	1.5	20.6	8.7	9.5	91.3
#100	1.2	1.2	4.0	2.3	6.4	97.7
LBW	1.0	0.9	1.0	1.0	1.3	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:	66	Workability Factor:	34
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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

Aggregate Optimization Chart

PLANT #: P11

Contractor: _____

Sample Date: 10/27/25

Concrete Grade: P1M, 3500HP, 4000HP

Dates Test Represents: 10/28/2025 through 11/3/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1000	6.12	2.62	32.6
IA	71-47	Presque Isle	870	5.32	2.62	28.3
2NS	63-115	Ray Rd	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

----- Verify this number is 100%



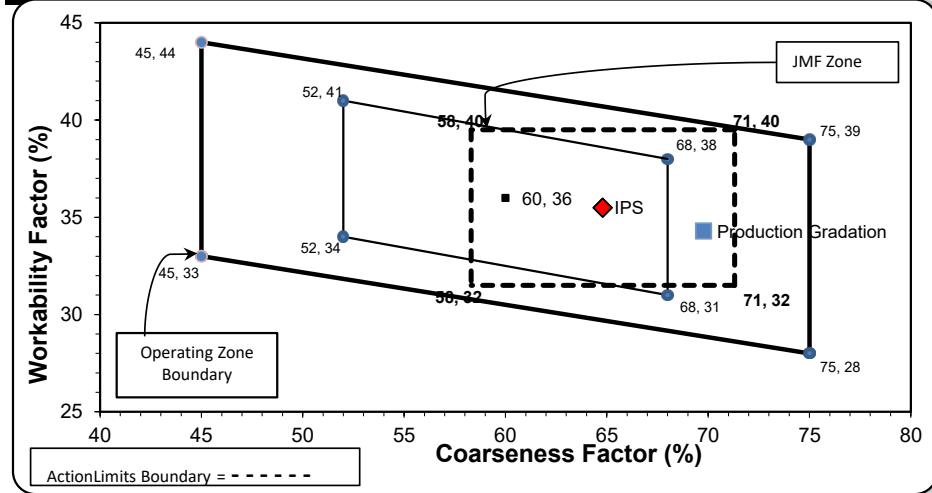
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	38.8	100.0	100.0	80.1	19.9	19.9
3/4"	9.0	98.3	100.0	69.9	10.2	30.1
1/2"	2.2	76.6	100.0	61.5	8.4	38.5
3/8"	1.8	51.1	100.0	54.2	7.4	45.8
#4	1.6	12.2	97.4	42.1	12.1	57.9
#8	1.6	4.4	83.2	34.3	7.8	65.7
#16	1.6	2.9	64.4	26.5	7.8	73.5
#30	1.5	2.6	46.1	19.2	7.3	80.8
#50	1.4	2.5	21.8	9.7	9.6	90.3
#100	1.4	2.4	4.8	3.0	6.7	97.0
LBW	1.1	2.0	1.0	1.3	1.7	98.7

*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:	34
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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

Approved By:

PREPARED BY:
 SM, LLC Technical Service

Aggregate Optimization Chart

PLANT #: **P-02**

Contractor: _____

Sample Date: 10/27/25

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

Dates Test Represents: 10/28/2025 through 11/3/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1000	6.12	2.62	32.6
IA	71-47	Presque Isle	870	5.32	2.62	28.3
2NS	63-115	Ray Rd	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

←----- Verify this number is 100%



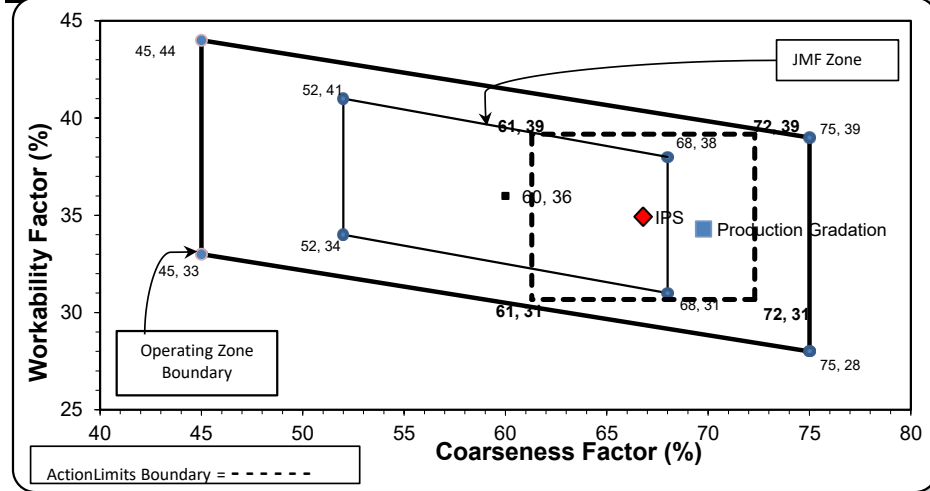
Superior Materials, LLC
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Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	38.8	100.0	100.0	80.1	19.9	19.9
3/4"	9.0	98.3	100.0	69.9	10.2	30.1
1/2"	2.2	76.6	100.0	61.5	8.4	38.5
3/8"	1.8	51.1	100.0	54.2	7.4	45.8
#4	1.6	12.2	97.4	42.1	12.1	57.9
#8	1.6	4.4	83.2	34.3	7.8	65.7
#16	1.6	2.9	64.4	26.5	7.8	73.5
#30	1.5	2.6	46.1	19.2	7.3	80.8
#50	1.4	2.5	21.8	9.7	9.6	90.3
#100	1.4	2.4	4.8	3.0	6.7	97.0
LBW	1.1	2.0	1.0	1.3	1.7	98.7

*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:	34
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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: