

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-102**

Contractor: _____

Sample Date: 9/15/25

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

Dates Test Represents: 9/16/2025 through 9/22/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	58-003	Stoneco	1400	8.34	2.69	44.9
IA	58-003	Stoneco	520	3.10	2.69	16.7
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"	66.8	100.0	100.0	85.1	14.9	14.9
3/4"	47.2	100.0	100.0	76.3	8.8	23.7
1/2"	18.4	93.6	100.0	62.3	14.0	37.7
3/8"	9.8	80.2	100.0	56.2	6.1	43.8
#4	2.4	18.8	98.9	42.2	14.0	57.8
#8	1.8	4.7	84.0	33.9	8.4	66.1
#16	1.5	3.2	64.8	26.1	7.8	73.9
#30	1.3	2.4	45.4	18.4	7.7	81.6
#50	1.2	2.1	21.3	9.1	9.4	90.9
#100	1.2	1.8	3.8	2.3	6.8	97.7
LBW	1.0	1.6	0.5	0.9	1.4	99.1

*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

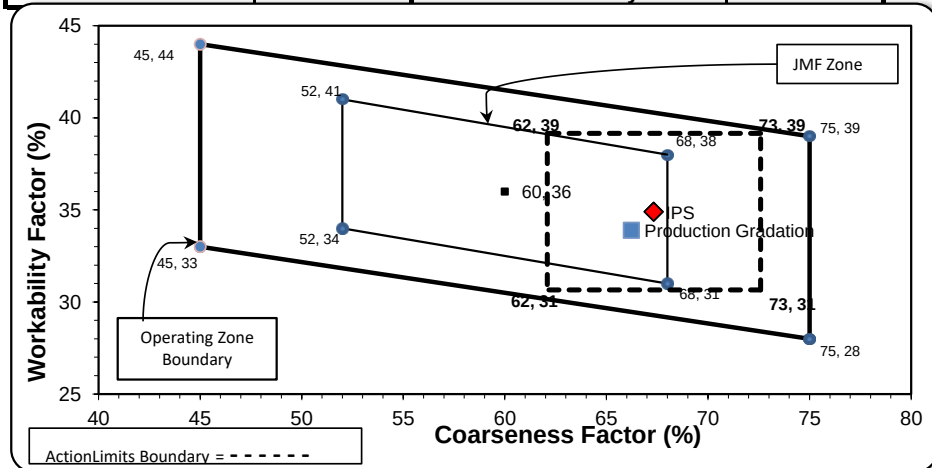
30701 W. 10 Mile Rd.

Suite 500

Farmington Hills, MI 48336

Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Coarseness Factor:	66	Workability Factor:	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

PREPARED BY:
SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Sample Date: 9/15/25

Dates Test Represents: 9/16/2025 through 9/22/2025

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

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	58-003	Stoneco	1400	8.34	2.69	44.9
IA	58-003	Stoneco	520	3.10	2.69	16.7
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"	66.8	100.0	100.0	85.1	14.9	14.9
3/4"	47.2	100.0	100.0	76.3	8.8	23.7
1/2"	18.4	93.6	100.0	62.3	14.0	37.7
3/8"	9.8	80.2	100.0	56.2	6.1	43.8
#4	2.4	18.8	98.9	42.2	14.0	57.8
#8	1.8	4.7	84.0	33.9	8.4	66.1
#16	1.5	3.2	64.8	26.1	7.8	73.9
#30	1.3	2.4	45.4	18.4	7.7	81.6
#50	1.2	2.1	21.3	9.1	9.4	90.9
#100	1.2	1.8	3.8	2.3	6.8	97.7
LBW	1.0	1.6	0.5	0.9	1.4	99.1

*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.



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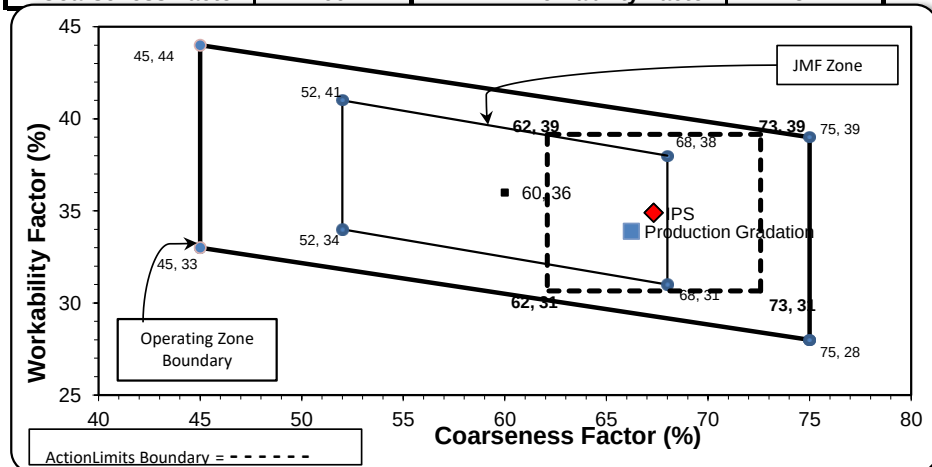
30701 W. 10 Mile Rd.

Suite 500

Farmington Hills, MI 48336

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

PREPARED BY:
SM, LLC Technical Service

Approved BY:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: 12

Sample Date: 9/15/25

Dates Test Represents: 9/16/2025 through 9/22/2025

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

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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"	98.7	100.0	100.0	99.6	0.4	0.4
1"	51.7	100.0	100.0	84.7	14.9	15.3
3/4"	13.4	95.1	100.0	71.2	13.5	28.8
1/2"	3.6	68.7	100.0	60.4	10.8	39.6
3/8"	2.7	43.5	100.0	52.7	7.7	47.3
#4	1.9	8.1	97.3	41.0	11.7	59.0
#8	1.6	3.4	79.9	32.7	8.3	67.3
#16	1.5	2.6	61.3	25.2	7.5	74.8
#30	1.5	2.4	44.9	18.7	6.5	81.3
#50	1.4	2.2	24.2	10.5	8.2	89.5
#100	1.4	2.1	6.3	3.5	7.0	96.5
LBW	1.2	1.8	0.9	1.3	2.3	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.

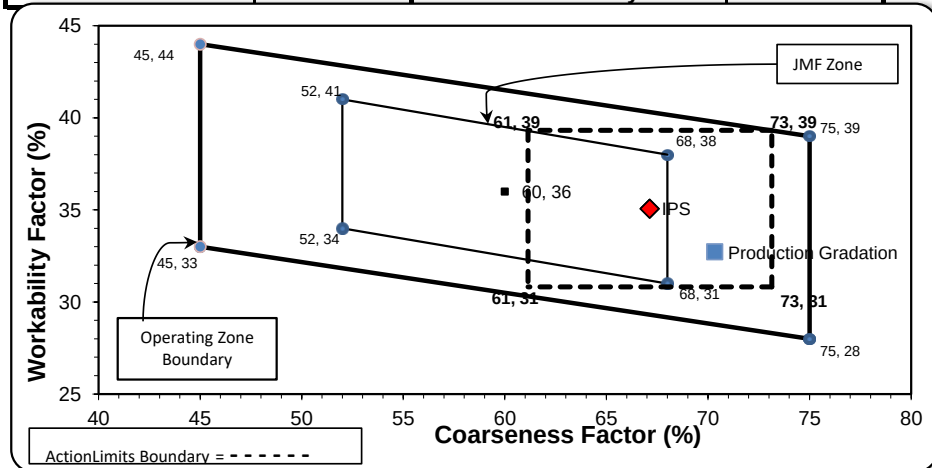
*% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.



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

Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Coarseness Factor:	70	Workability Factor:	33
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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"	99.6	0.4	0.4
1"	83.9	15.7	16.1
3/4"	74.0	9.8	26.0
1/2"	63.7	10.3	36.3
3/8"	56.4	7.3	43.6
#4	43.0	13.4	57.0
#8	35.1	7.9	64.9
#16	29.0	6.1	71.0
#30	20.9	8.0	79.1
#50	8.1	12.8	91.9
#100	1.6	6.5	98.4
LBW	0.9	0.8	99.1

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SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P11**

Contractor: _____

Sample Date: 9/15/25

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

Dates Test Represents: 9/16/2025 through 9/22/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	900	5.50	2.62	29.3
IA	71-47	Presque Isle	970	5.93	2.62	31.6
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"	98.7	100.0	100.0	99.6	0.4	0.4
1"	51.7	100.0	100.0	85.8	13.8	14.2
3/4"	13.4	95.1	100.0	73.1	12.8	26.9
1/2"	3.6	68.7	100.0	61.8	11.2	38.2
3/8"	2.7	43.5	100.0	53.6	8.2	46.4
#4	1.9	8.1	97.3	41.1	12.5	58.9
#8	1.6	3.4	79.9	32.8	8.4	67.2
#16	1.5	2.6	61.3	25.2	7.6	74.8
#30	1.5	2.4	44.9	18.7	6.5	81.3
#50	1.4	2.2	24.2	10.6	8.2	89.4
#100	1.4	2.1	6.3	3.5	7.0	96.5
LBW	1.2	1.8	0.9	1.3	2.3	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.



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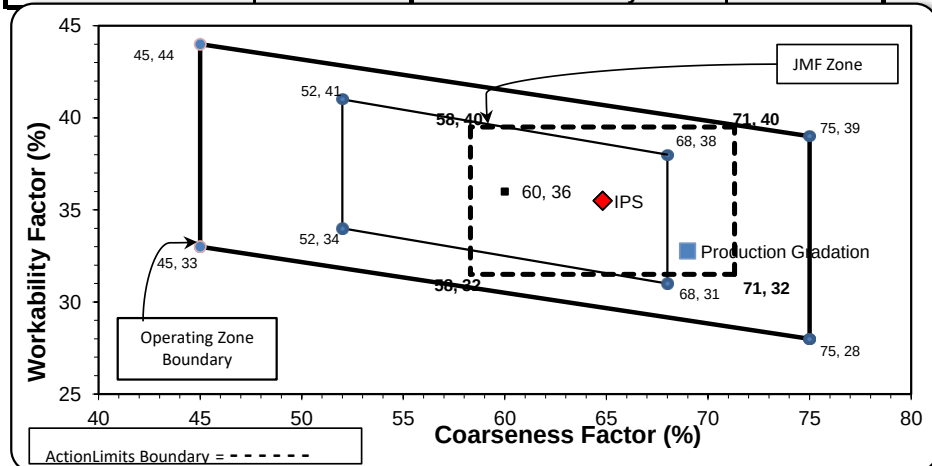
30701 W. 10 Mile Rd.

Suite 500

Farmington Hills, MI 48336

Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Coarseness Factor:	69	Workability Factor:	33
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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:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-O2**

Sample Date: 9/15/25

Dates Test Represents: 9/16/2025 through 9/22/2025

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

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	900	5.50	2.62	29.3
IA	71-47	Presque Isle	970	5.93	2.62	31.6
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"	98.7	100.0	100.0	99.6	0.4	0.4
1"	51.7	100.0	100.0	85.8	13.8	14.2
3/4"	13.4	95.1	100.0	73.1	12.8	26.9
1/2"	3.6	68.7	100.0	61.8	11.2	38.2
3/8"	2.7	43.5	100.0	53.6	8.2	46.4
#4	1.9	8.1	97.3	41.1	12.5	58.9
#8	1.6	3.4	79.9	32.8	8.4	67.2
#16	1.5	2.6	61.3	25.2	7.6	74.8
#30	1.5	2.4	44.9	18.7	6.5	81.3
#50	1.4	2.2	24.2	10.6	8.2	89.4
#100	1.4	2.1	6.3	3.5	7.0	96.5
LBW	1.2	1.8	0.9	1.3	2.3	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.



Superior Materials, LLC

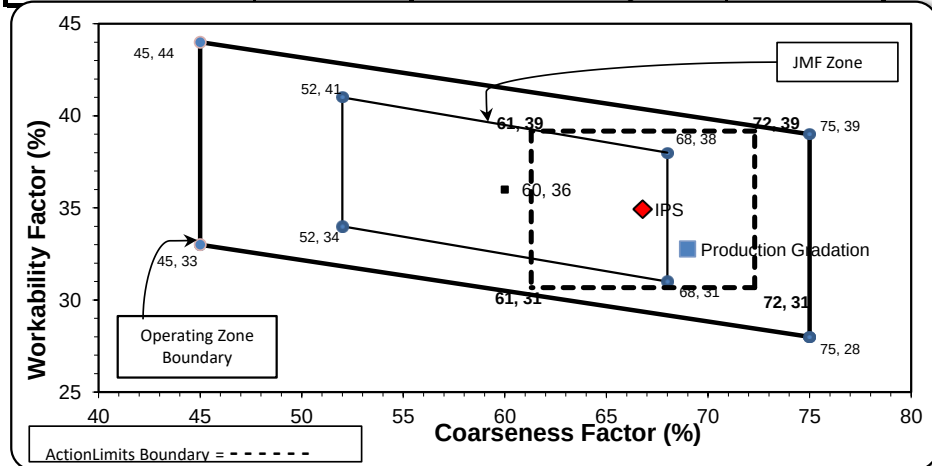
30701 W. 10 Mile Rd.

Suite 500

Farmington Hills, MI 48336

Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Coarseness Factor:	69	Workability Factor:	33
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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: