

Aggregate Optimization Chart

PLANT #: **P-101**

Sample Date: 7/11/22

Concrete Grade: **P1M, 3500HP**

Contractor: _____

Dates Test Represents: 7/12/2022 through 7/18/2022

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	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	75-051	Mid Michigan	1200	7.23	2.66	39.1
Total Wt			3070	18.67		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"	94.9	100.0	100.0	98.2	1.8	1.8
1"	44.7	100.0	100.0	80.7	17.5	19.3
3/4"	16.0	98.7	100.0	70.4	10.3	29.6
1/2"	4.4	83.6	100.0	62.4	8.0	37.6
3/8"	2.9	65.4	100.0	57.1	5.3	42.9
#4	1.9	21.6	98.9	44.9	12.2	55.1
#8	1.6	6.6	83.2	34.8	10.2	65.2
#16	1.5	3.5	66.7	27.5	7.3	72.5
#30	1.4	2.5	51.0	21.1	6.4	78.9
#50	1.4	2.3	26.9	11.6	9.5	88.4
#100	1.1	2.2	7.0	3.7	7.9	96.3
LBW	0.9	1.9	0.8	1.1	2.6	98.9

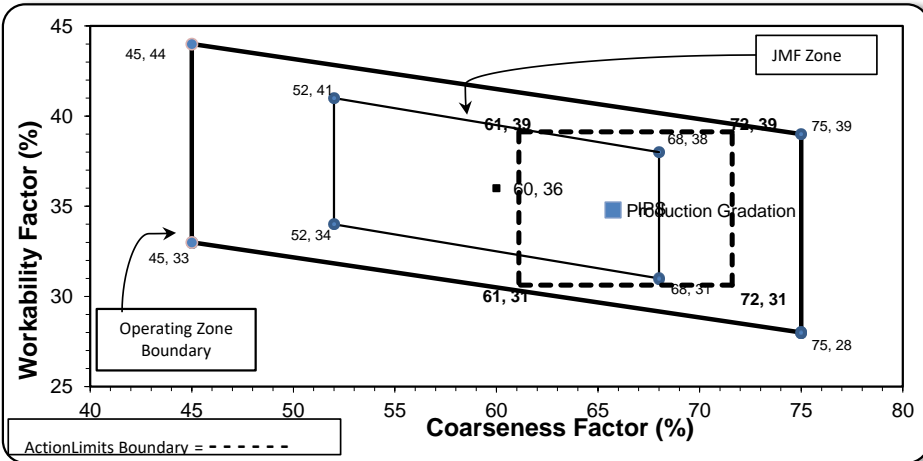
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size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

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	66	Workability Factor:	35
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Initial Production Sample (IPS)

Coarseness Factor:		66	
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"	84.3	15.3	15.7
3/4"	74.8	9.6	25.2
1/2"	64.3	10.4	35.7
3/8"	56.8	7.5	43.2
#4	43.0	13.8	57.0
#8	34.9	8.1	65.1
#16	26.4	8.5	73.6
#30	19.9	6.5	80.1
#50	10.4	9.5	89.6
#100	3.4	7.0	96.6
LBW	1.2	2.2	98.8



PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-102**

Sample Date: 7/11/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/12/2022 through 7/18/2022

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	58-003	Stoneco	1370	8.16	2.69	43.9
IA	58-003	Stoneco	550	3.28	2.69	17.6
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.5
Total Wt			3120	18.70		100.0

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



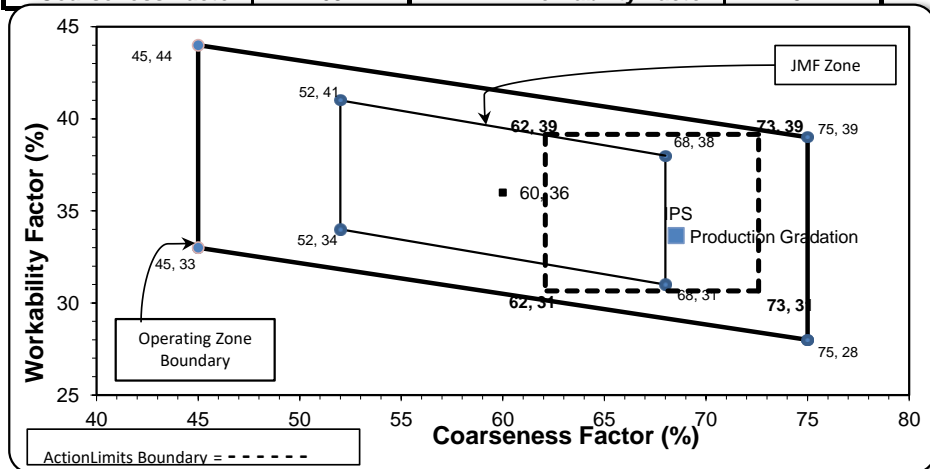
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	67.5	100.0	100.0	85.7	14.3	14.3
3/4"	47.0	100.0	100.0	76.7	9.0	23.3
1/2"	19.0	91.2	100.0	62.9	13.8	37.1
3/8"	4.8	79.2	100.0	54.5	8.4	45.5
#4	2.8	23.6	98.8	43.4	11.1	56.6
#8	1.4	4.6	83.8	33.7	9.7	66.3
#16	1.2	2.0	66.2	26.3	7.3	73.7
#30	1.2	1.2	48.5	19.4	6.9	80.6
#50	1.1	1.0	24.4	10.0	9.3	90.0
#100	1.0	1.0	7.4	3.5	6.6	96.5
LBW	1.0	0.6	1.3	1.0	2.4	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: **69** **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:

Aggregate Optimization Chart

PLANT #: **P-103**

Sample Date: 7/11/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/12/2022 through 7/18/2022

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	58-003	Stoneco	1370	8.16	2.69	43.9
IA	58-003	Stoneco	550	3.28	2.69	17.6
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.5
Total Wt			3120	18.70		100.0

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



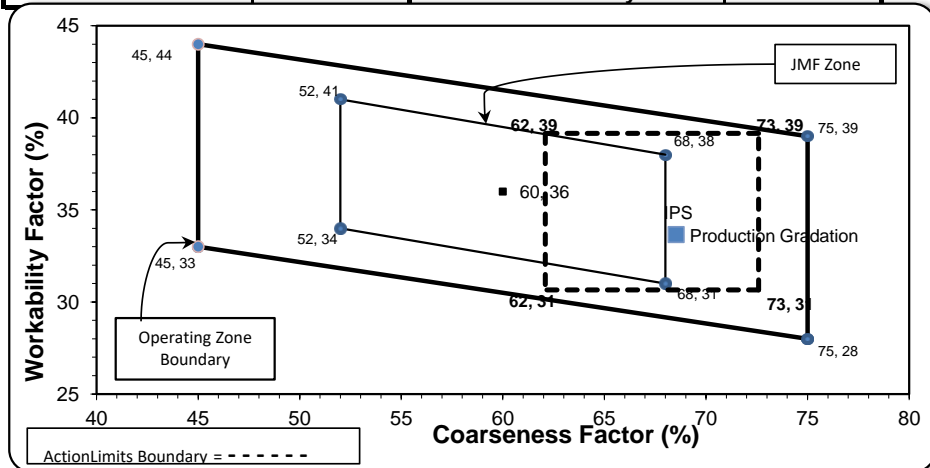
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	67.5	100.0	100.0	85.7	14.3	14.3
3/4"	47.0	100.0	100.0	76.7	9.0	23.3
1/2"	19.0	91.2	100.0	62.9	13.8	37.1
3/8"	4.8	79.2	100.0	54.5	8.4	45.5
#4	2.8	23.6	98.8	43.4	11.1	56.6
#8	1.4	4.6	83.8	33.7	9.7	66.3
#16	1.2	2.0	66.2	26.3	7.3	73.7
#30	1.2	1.2	48.5	19.4	6.9	80.6
#50	1.1	1.0	24.4	10.0	9.3	90.0
#100	1.0	1.0	7.4	3.5	6.6	96.5
LBW	1.0	0.6	1.3	1.0	2.4	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: **69** **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:

Aggregate Optimization Chart

PLANT #: **P-12**

Sample Date: 7/11/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/12/2022 through 7/18/2022

Contractor: _____

MDOT No.: _____



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

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	850	5.20	2.62	27.7
2NS	63-115	Ray Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

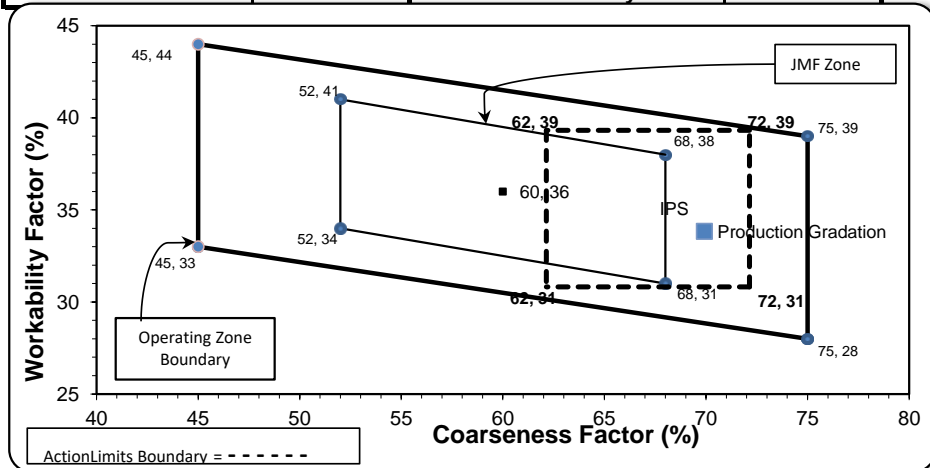
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Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.6	100.0	100.0	98.6	1.4	1.4
1"	45.2	100.0	100.0	82.7	15.9	17.3
3/4"	10.3	97.4	100.0	70.9	11.7	29.1
1/2"	2.1	71.5	100.0	61.2	9.8	38.8
3/8"	1.8	45.0	100.0	53.7	7.4	46.3
#4	1.5	8.6	96.7	42.2	11.5	57.8
#8	1.4	4.0	79.3	33.8	8.4	66.2
#16	1.4	2.6	61.8	26.3	7.5	73.7
#30	1.4	2.1	45.5	19.5	6.8	80.5
#50	1.4	1.8	24.7	11.0	8.6	89.0
#100	1.2	1.6	4.9	2.8	8.2	97.2
LBW	0.8	1.0	1.0	0.9	1.9	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.

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"	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

PREPARED BY:
SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-32**

Sample Date: 7/11/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/12/2022 through 7/18/2022

Contractor: _____

MDOT No.: _____



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

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	920	5.63	2.62	30.0
2NS	95-013	Smelter Bay	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

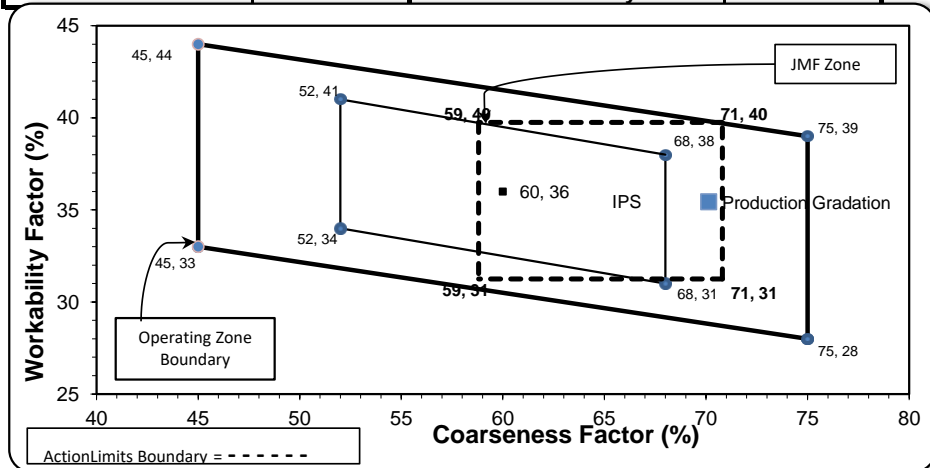
<----- Verify this number is 100%

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.6	100.0	100.0	98.7	1.3	1.3
1"	45.2	100.0	100.0	83.9	14.8	16.1
3/4"	10.3	97.4	100.0	72.9	11.0	27.1
1/2"	2.1	71.5	100.0	62.8	10.2	37.2
3/8"	1.8	45.0	100.0	54.7	8.0	45.3
#4	1.5	8.6	96.2	42.2	12.5	57.8
#8	1.4	4.0	83.1	35.4	6.7	64.6
#16	1.4	2.6	68.2	29.0	6.5	71.0
#30	1.4	2.1	49.7	21.3	7.7	78.7
#50	1.4	1.8	25.5	11.3	9.9	88.7
#100	1.2	1.6	8.2	4.2	7.2	95.8
LBW	0.8	1.0	1.6	1.2	3.0	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.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	70	Workability Factor:	35
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Intial 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

PLANT #: **P-35**

Sample Date: 7/11/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/12/2022 through 7/18/2022

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	58-003	Stoneco	1370	8.16	2.69	43.9
IA	58-003	Stoneco	550	3.28	2.69	17.6
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.5
Total Wt			3120	18.70		100.0

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



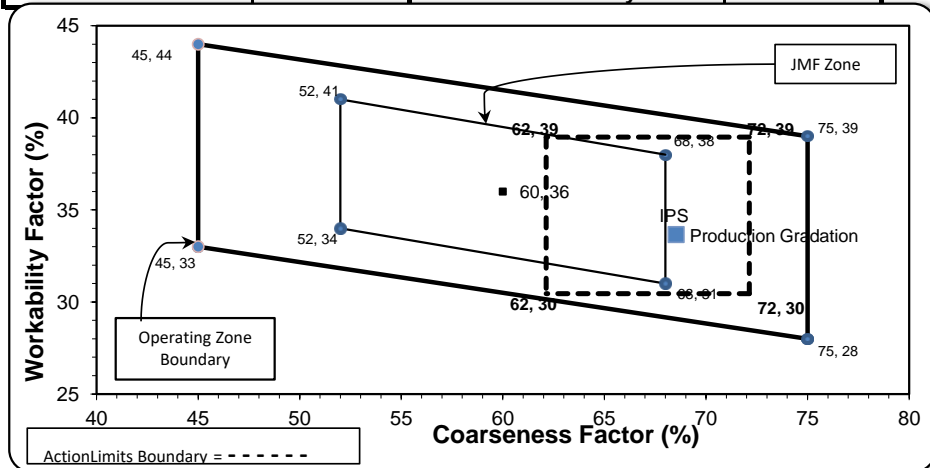
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	67.5	100.0	100.0	85.7	14.3	14.3
3/4"	47.0	100.0	100.0	76.7	9.0	23.3
1/2"	19.0	91.2	100.0	62.9	13.8	37.1
3/8"	4.8	79.2	100.0	54.5	8.4	45.5
#4	2.8	23.6	98.8	43.4	11.1	56.6
#8	1.4	4.6	83.8	33.7	9.7	66.3
#16	1.2	2.0	66.2	26.3	7.3	73.7
#30	1.2	1.2	48.5	19.4	6.9	80.6
#50	1.1	1.0	24.4	10.0	9.3	90.0
#100	1.0	1.0	7.4	3.5	6.6	96.5
LBW	1.0	0.6	1.3	1.0	2.4	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: **69** **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"	86.9	13.1	13.1
3/4"	76.1	10.8	23.9
1/2"	63.7	12.4	36.3
3/8"	56.2	7.5	43.8
#4	43.2	13.0	56.8
#8	34.7	8.5	65.3
#16	27.5	7.2	72.5
#30	20.6	7.0	79.4
#50	9.0	11.6	91.0
#100	2.1	6.9	97.9
LBW	1.0	1.1	99.0

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-36**

Sample Date: 7/11/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/12/2022 through 7/18/2022

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	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



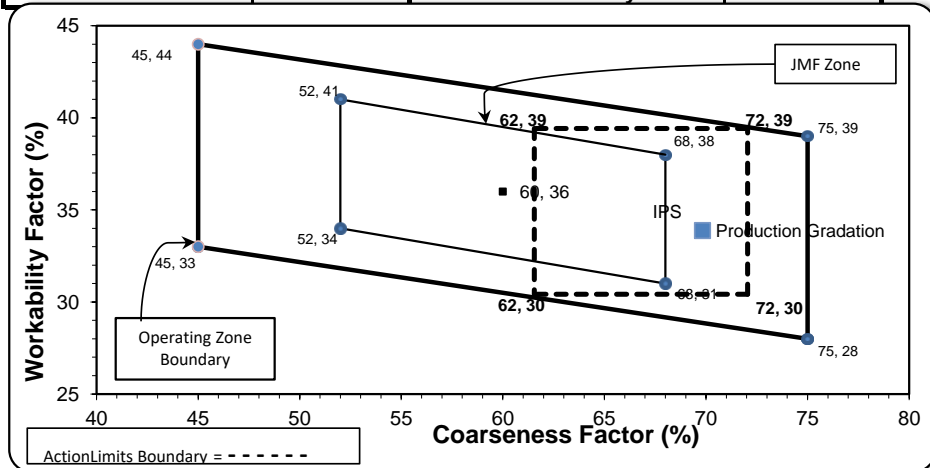
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.6	100.0	100.0	98.7	1.3	1.3
1"	45.2	100.0	100.0	83.9	14.8	16.1
3/4"	10.3	97.4	100.0	72.9	11.1	27.1
1/2"	2.1	71.5	100.0	62.3	10.6	37.7
3/8"	1.8	45.0	100.0	53.8	8.5	46.2
#4	1.5	8.6	97.4	41.2	12.6	58.8
#8	1.4	4.0	82.4	33.9	7.3	66.1
#16	1.4	2.6	67.0	27.4	6.5	72.6
#30	1.4	2.1	47.6	19.7	7.7	80.3
#50	1.4	1.8	17.3	7.7	11.9	92.3
#100	1.2	1.6	3.3	2.1	5.6	97.9
LBW	0.8	1.0	0.4	0.7	1.4	99.3

*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**



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"	72.1	12.9	27.9
1/2"	64.5	7.6	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:

Aggregate Optimization Chart

PLANT #: **P-39**

Sample Date: 7/11/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/12/2022 through 7/18/2022

Contractor: _____

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	800	4.89	2.62	26.1
2NS	44-051	Krake Willis Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



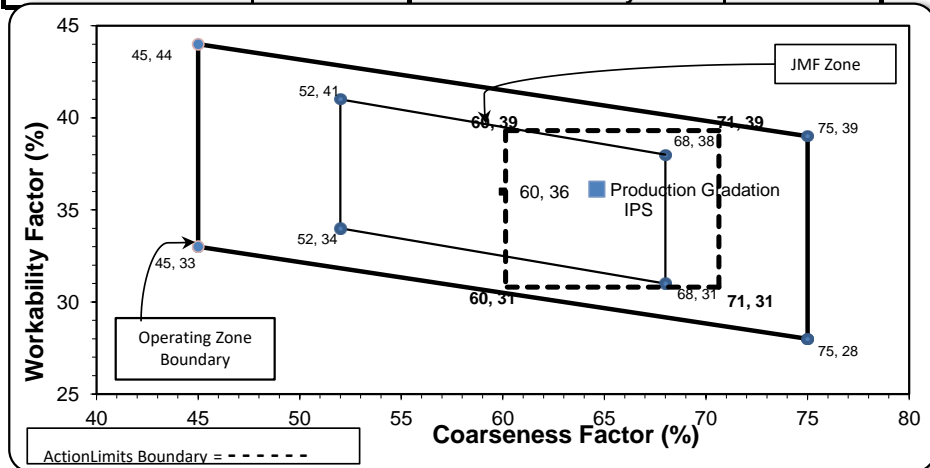
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	94.9	100.0	100.0	98.3	1.7	1.7
1"	44.7	100.0	100.0	81.6	16.7	18.4
3/4"	16.0	98.7	100.0	71.8	9.9	28.2
1/2"	4.4	83.6	100.0	64.0	7.8	36.0
3/8"	2.9	65.4	100.0	58.7	5.2	41.3
#4	1.9	21.6	98.9	46.5	12.2	53.5
#8	1.6	6.6	83.2	36.1	10.4	63.9
#16	1.5	3.5	66.7	28.6	7.6	71.4
#30	1.4	2.5	51.0	21.9	6.7	78.1
#50	1.4	2.3	26.9	12.0	9.9	88.0
#100	1.1	2.2	7.0	3.8	8.2	96.2
LBW	0.9	1.9	0.8	1.1	2.7	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: **65** **Workability Factor:** **36**



Initial Production Sample (IPS)

Coarseness Factor: 65		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"	74.1	9.8	25.9
1/2"	64.3	9.7	35.7
3/8"	57.5	6.8	42.5
#4	44.5	13.1	55.5
#8	35.1	9.4	64.9
#16	27.9	7.2	72.1
#30	21.7	6.2	78.3
#50	12.6	9.1	87.4
#100	3.5	9.1	96.5
LBW	1.2	2.4	98.8

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-O2**

Sample Date: 7/11/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/12/2022 through 7/18/2022

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	950	5.81	2.62	30.9
IA	71-47	Presque Isle	870	5.32	2.62	28.3
2NS	63-115	Ray Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

<---- Verify this number is 100%



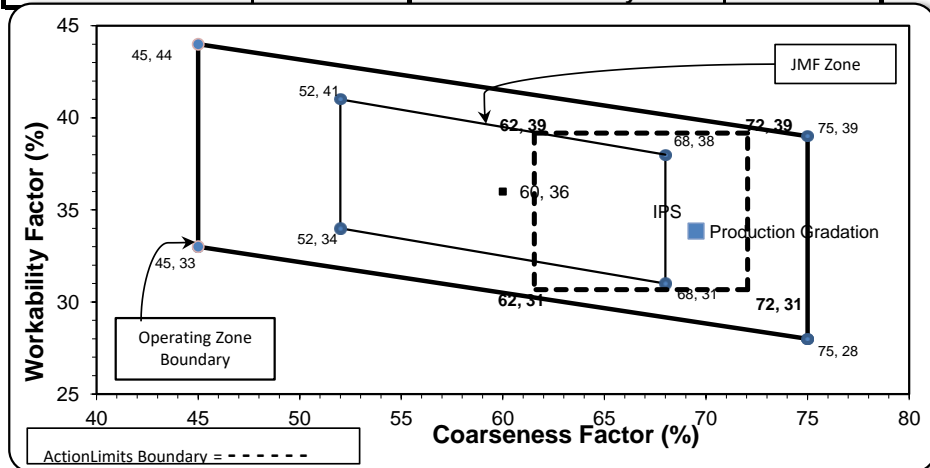
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.6	100.0	100.0	98.6	1.4	1.4
1"	45.2	100.0	100.0	83.0	15.6	17.0
3/4"	10.3	97.4	100.0	71.5	11.5	28.5
1/2"	2.1	71.5	100.0	61.6	9.9	38.4
3/8"	1.8	45.0	100.0	54.0	7.6	46.0
#4	1.5	8.6	96.7	42.3	11.8	57.7
#8	1.4	4.0	79.3	33.9	8.4	66.1
#16	1.4	2.6	61.8	26.3	7.5	73.7
#30	1.4	2.1	45.5	19.6	6.8	80.4
#50	1.4	1.8	24.7	11.0	8.6	89.0
#100	1.2	1.6	4.9	2.8	8.2	97.2
LBW	0.8	1.0	1.0	0.9	1.9	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.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **70** 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"	85.0	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: