

Aggregate Optimization Chart

PLANT #: **P-101**

Sample Date: 7/4/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/5/2022 through 7/11/2022

Contractor: _____

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"	98.1	100.0	100.0	99.3	0.7	0.7
1"	45.6	100.0	100.0	81.0	18.3	19.0
3/4"	11.8	98.7	100.0	68.9	12.1	31.1
1/2"	2.5	84.5	100.0	62.0	6.9	38.0
3/8"	1.9	65.4	100.0	56.8	5.2	43.2
#4	1.7	16.1	99.0	43.5	13.3	56.5
#8	1.5	4.8	83.6	34.5	9.0	65.5
#16	1.4	3.0	68.3	28.0	6.5	72.0
#30	1.3	2.6	52.6	21.7	6.3	78.3
#50	1.2	2.4	27.5	11.8	9.9	88.2
#100	1.2	2.2	7.5	3.9	7.9	96.1
LBW	1.0	1.9	0.9	1.2	2.7	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.

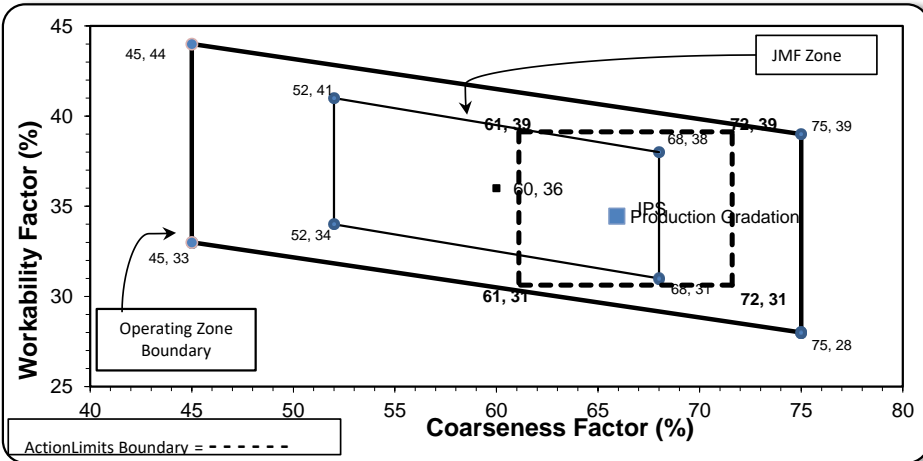
Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	66	Workability Factor:	34
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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: 7/4/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/5/2022 through 7/11/2022

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%



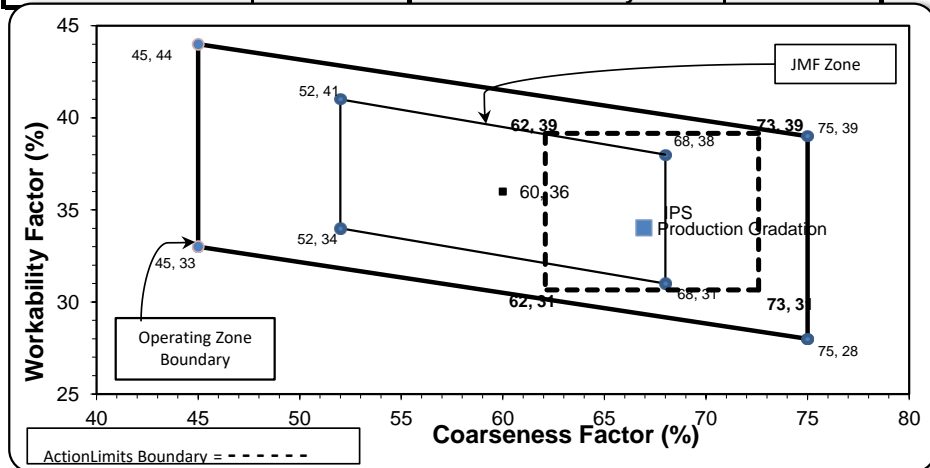
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 Suite 500
 Farmington Hills, MI 48336

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"	65.5	100.0	100.0	84.9	15.1	15.1
3/4"	37.0	100.0	100.0	72.3	12.5	27.7
1/2"	13.8	93.5	100.0	61.0	11.3	39.0
3/8"	8.3	77.9	100.0	55.8	5.2	44.2
#4	3.4	26.9	98.8	44.2	11.6	55.8
#8	1.8	5.7	83.8	34.0	10.2	66.0
#16	1.4	2.0	66.2	26.4	7.6	73.6
#30	1.3	1.3	48.5	19.5	7.0	80.5
#50	1.2	1.2	24.4	10.1	9.3	89.9
#100	1.2	1.1	7.4	3.6	6.6	96.4
LBW	1.0	1.2	1.3	1.2	2.4	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: **67** **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: 7/4/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/5/2022 through 7/11/2022

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%



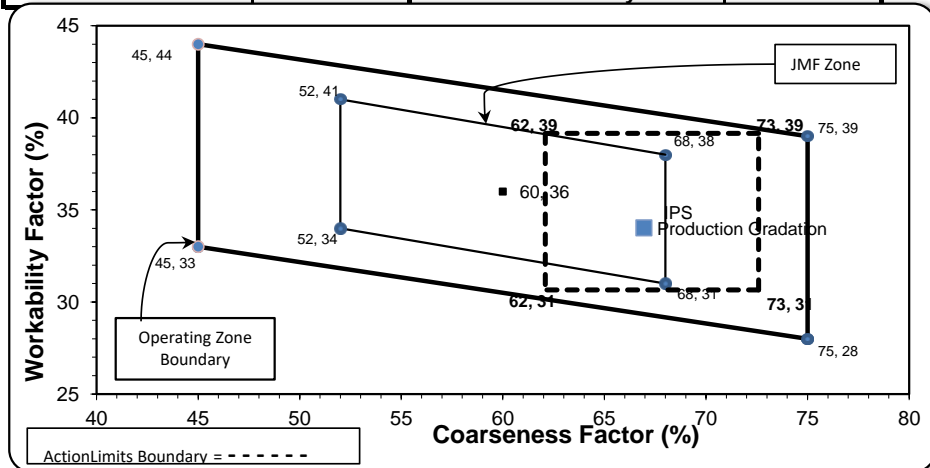
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 Suite 500
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Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	65.5	100.0	100.0	84.9	15.1	15.1
3/4"	37.0	100.0	100.0	72.3	12.5	27.7
1/2"	13.8	93.5	100.0	61.0	11.3	39.0
3/8"	8.3	77.9	100.0	55.8	5.2	44.2
#4	3.4	26.9	98.8	44.2	11.6	55.8
#8	1.8	5.7	83.8	34.0	10.2	66.0
#16	1.4	2.0	66.2	26.4	7.6	73.6
#30	1.3	1.3	48.5	19.5	7.0	80.5
#50	1.2	1.2	24.4	10.1	9.3	89.9
#100	1.2	1.1	7.4	3.6	6.6	96.4
LBW	1.0	1.2	1.3	1.2	2.4	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: **67** **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

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Aggregate Optimization Chart

PLANT #: **P-12**

Sample Date: 7/4/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/5/2022 through 7/11/2022

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	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

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



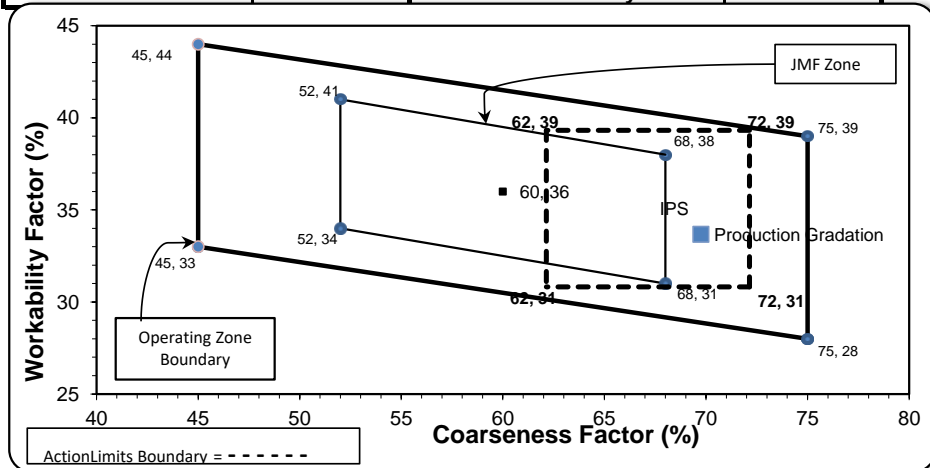
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Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.6	100.0	100.0	98.6	1.4	1.4
1"	45.2	100.0	100.0	82.7	15.9	17.3
3/4"	10.3	97.4	100.0	70.9	11.7	29.1
1/2"	2.1	71.5	100.0	61.2	9.8	38.8
3/8"	1.8	45.0	100.0	53.7	7.4	46.3
#4	1.5	8.6	96.8	42.3	11.5	57.7
#8	1.4	4.0	78.9	33.7	8.6	66.3
#16	1.4	2.6	61.3	26.1	7.6	73.9
#30	1.4	2.1	44.8	19.3	6.9	80.7
#50	1.4	1.8	24.5	10.9	8.3	89.1
#100	1.2	1.6	4.8	2.8	8.1	97.2
LBW	0.8	1.0	0.6	0.8	2.0	99.2

*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"	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: 7/4/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/5/2022 through 7/11/2022

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	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%



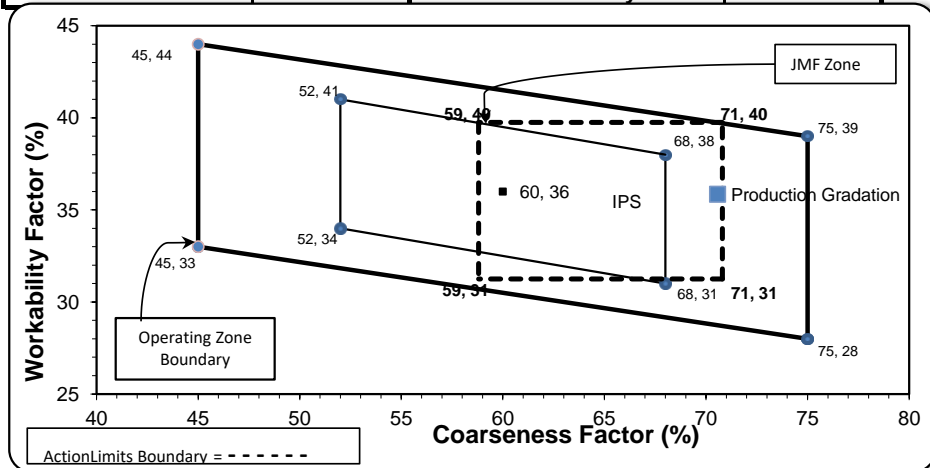
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 Farmington Hills, MI 48336

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	11.0	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	84.1	35.9	6.3	64.1
#16	1.4	2.6	69.6	29.5	6.3	70.5
#30	1.4	2.1	51.2	21.9	7.6	78.1
#50	1.4	1.8	26.6	11.8	10.1	88.2
#100	1.2	1.6	8.7	4.4	7.4	95.6
LBW	0.8	1.0	1.6	1.2	3.2	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: **71** **Workability Factor:** **36**



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: 7/4/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/5/2022 through 7/11/2022

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%



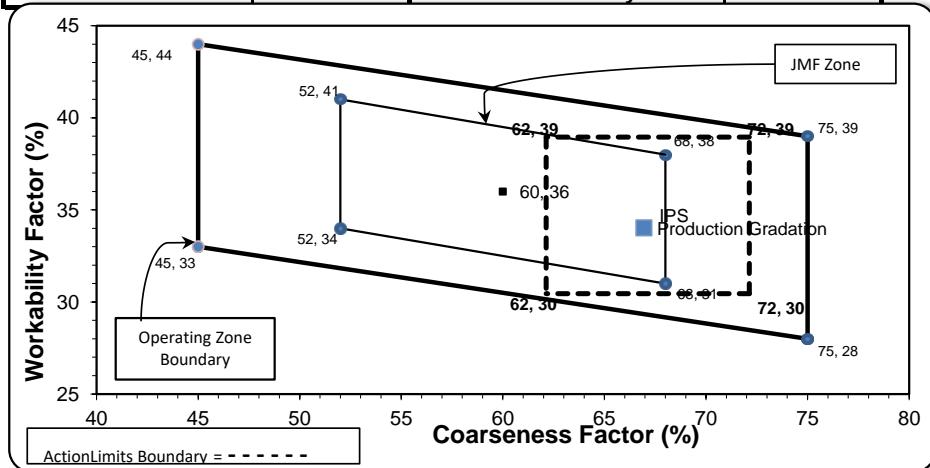
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	65.5	100.0	100.0	84.9	15.1	15.1
3/4"	37.0	100.0	100.0	72.3	12.5	27.7
1/2"	13.8	93.5	100.0	61.0	11.3	39.0
3/8"	8.3	77.9	100.0	55.8	5.2	44.2
#4	3.4	26.9	98.8	44.2	11.6	55.8
#8	1.8	5.7	83.8	34.0	10.2	66.0
#16	1.4	2.0	66.2	26.4	7.6	73.6
#30	1.3	1.3	48.5	19.5	7.0	80.5
#50	1.2	1.2	24.4	10.1	9.3	89.9
#100	1.2	1.1	7.4	3.6	6.6	96.4
LBW	1.0	1.2	1.3	1.2	2.4	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: **67** **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: 7/4/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/5/2022 through 7/11/2022

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%



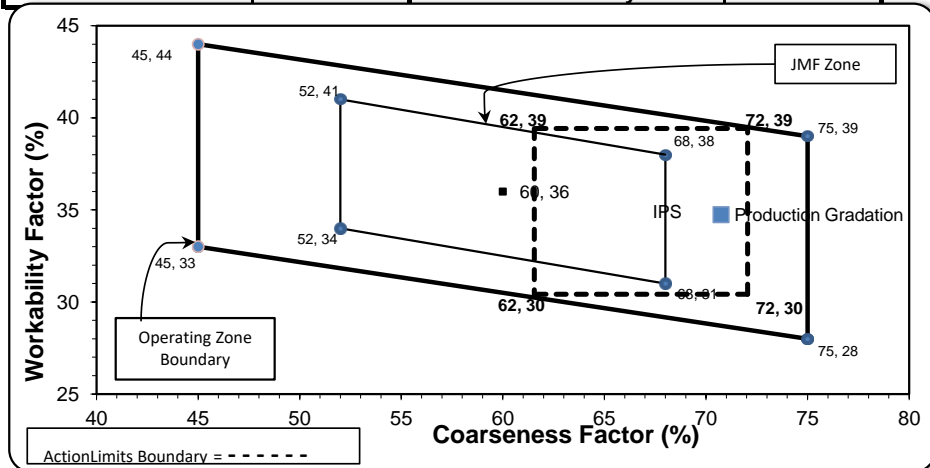
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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	98.0	41.5	12.4	58.5
#8	1.4	4.0	84.6	34.7	6.7	65.3
#16	1.4	2.6	70.5	28.8	6.0	71.2
#30	1.4	2.1	52.1	21.4	7.4	78.6
#50	1.4	1.8	22.8	9.9	11.5	90.1
#100	1.2	1.6	3.6	2.3	7.6	97.7
LBW	0.8	1.0	0.4	0.7	1.6	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: **71** **Workability Factor:** **35**



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: 7/4/22

Concrete Grade: **P1M, 3500HP**

Contractor: _____

Dates Test Represents: 7/5/2022 through 7/11/2022

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%



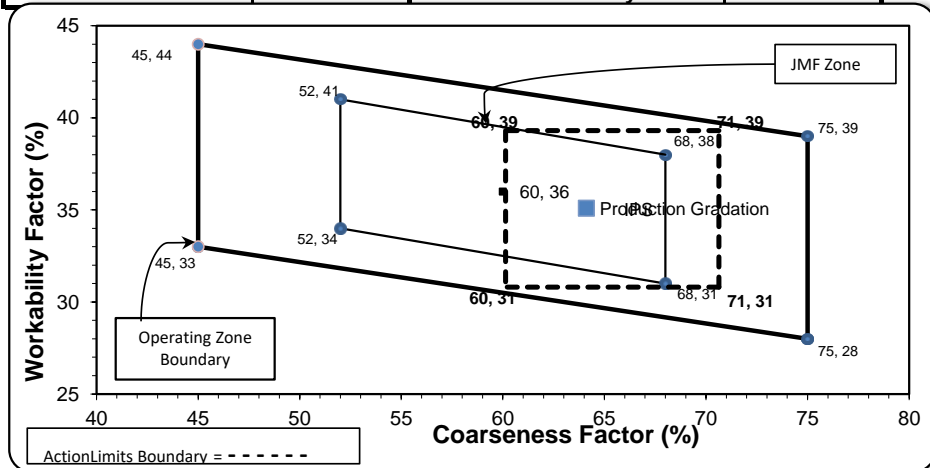
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.1	100.0	100.0	99.4	0.6	0.6
1"	45.6	100.0	100.0	81.9	17.4	18.1
3/4"	11.8	98.7	100.0	70.4	11.6	29.6
1/2"	2.5	84.5	100.0	63.6	6.8	36.4
3/8"	1.9	65.4	100.0	58.4	5.2	41.6
#4	1.7	16.1	96.6	44.1	14.3	55.9
#8	1.5	4.8	81.9	35.1	9.0	64.9
#16	1.4	3.0	68.5	29.1	6.0	70.9
#30	1.3	2.6	53.4	22.9	6.3	77.1
#50	1.2	2.4	28.6	12.7	10.2	87.3
#100	1.2	2.2	9.1	4.7	8.0	95.3
LBW	1.0	1.9	1.6	1.5	3.2	98.5

*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:	64	Workability Factor:	35
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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-02**

Sample Date: 7/4/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 7/5/2022 through 7/11/2022

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%



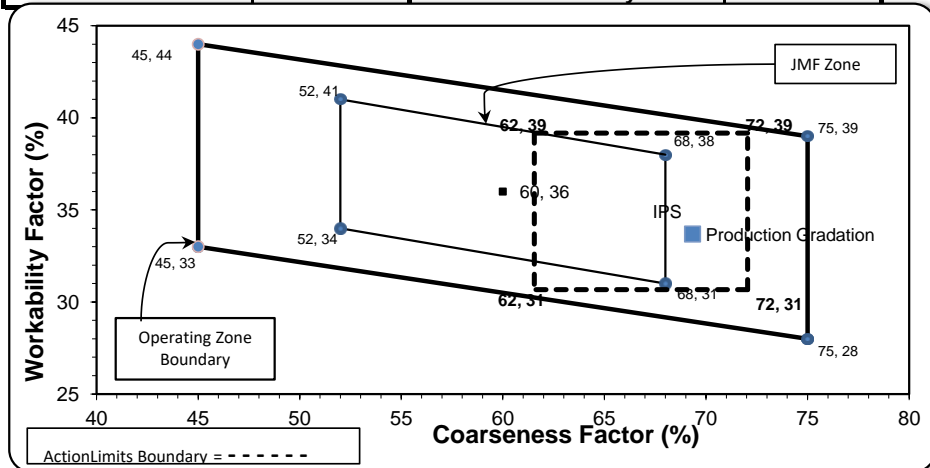
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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	96.8	42.3	11.7	57.7
#8	1.4	4.0	78.9	33.7	8.6	66.3
#16	1.4	2.6	61.3	26.1	7.6	73.9
#30	1.4	2.1	44.8	19.3	6.9	80.7
#50	1.4	1.8	24.5	10.9	8.4	89.1
#100	1.2	1.6	4.8	2.8	8.1	97.2
LBW	0.8	1.0	0.6	0.8	2.0	99.2

*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"	85.0	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: