

Aggregate Optimization Chart

PLANT #: **P-101**

Sample Date: 5/2/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 5/3/2022 through 5/9/2022

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"	97.4	100.0	100.0	99.1	0.9	0.9
1"	47.8	100.0	100.0	81.8	17.3	18.2
3/4"	12.8	98.5	100.0	69.2	12.6	30.8
1/2"	3.4	79.4	100.0	61.0	8.3	39.0
3/8"	2.5	54.2	100.0	54.1	6.9	45.9
#4	1.9	6.1	98.5	40.8	13.3	59.2
#8	1.8	2.4	83.3	33.8	6.9	66.2
#16	1.8	2.0	68.3	27.8	6.0	72.2
#30	1.7	1.8	53.3	21.9	6.0	78.1
#50	1.6	1.7	29.2	12.4	9.5	87.6
#100	1.6	1.5	7.3	3.8	8.6	96.2
LBW	1.4	1.4	0.6	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

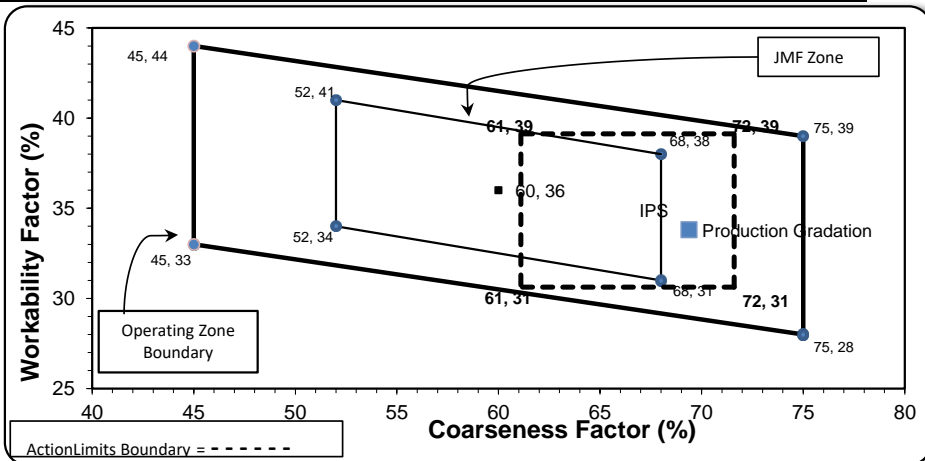
Coarseness Factor: **69** **Workability Factor:** **34**

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: 5/2/22

Concrete Grade: **P1M, 3500HP**

Contractor: _____

Dates Test Represents: 5/3/2022 through 5/9/2022

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%



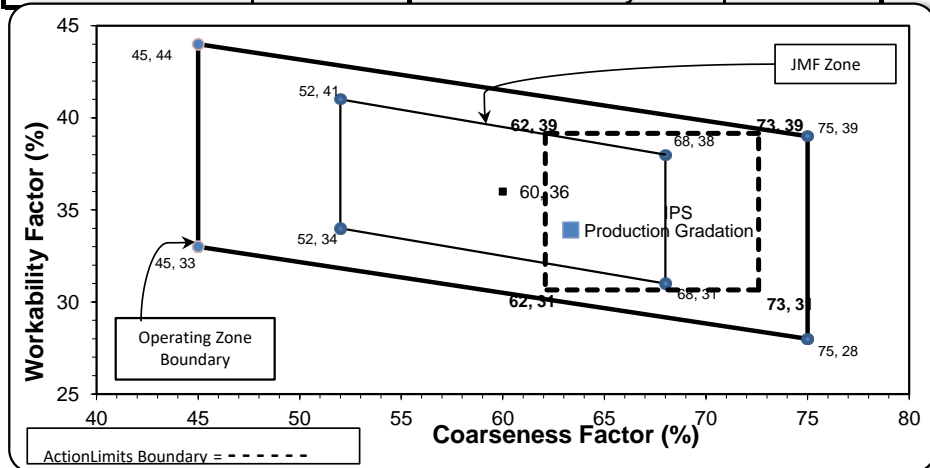
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 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	67.0	100.0	100.0	85.5	14.5	14.5
3/4"	33.3	100.0	100.0	70.7	14.8	29.3
1/2"	18.7	91.8	100.0	62.9	7.9	37.1
3/8"	11.8	82.2	100.0	58.1	4.7	41.9
#4	2.1	26.4	98.5	43.5	14.7	56.5
#8	1.3	6.9	83.5	33.9	9.6	66.1
#16	1.2	2.9	67.7	27.1	6.8	72.9
#30	1.0	2.0	51.4	20.6	6.5	79.4
#50	0.8	1.7	27.5	11.2	9.3	88.8
#100	0.7	1.6	7.6	3.5	7.7	96.5
LBW	0.6	1.6	0.9	0.9	2.6	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:	63	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

PLANT #: **P-103**

Sample Date: 5/2/22

Concrete Grade: **P1M, 3500HP**

Contractor: _____

Dates Test Represents: 5/3/2022 through 5/9/2022

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%



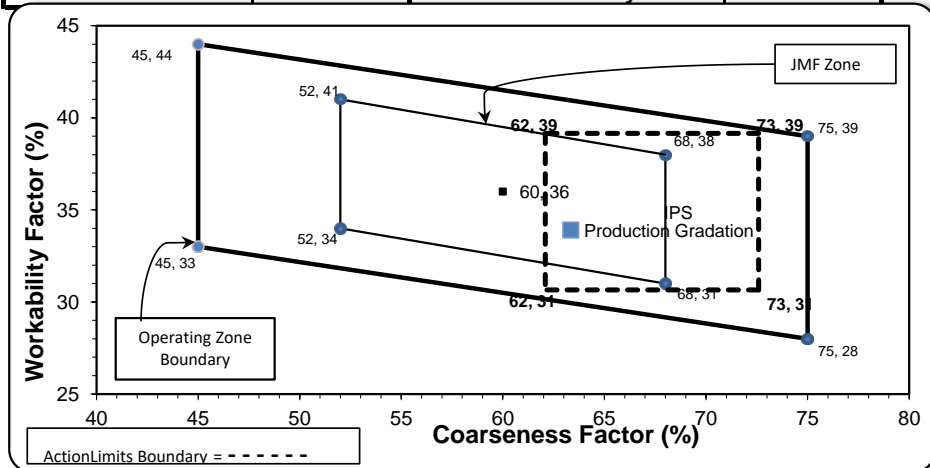
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 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	67.0	100.0	100.0	85.5	14.5	14.5
3/4"	33.3	100.0	100.0	70.7	14.8	29.3
1/2"	18.7	91.8	100.0	62.9	7.9	37.1
3/8"	11.8	82.2	100.0	58.1	4.7	41.9
#4	2.1	26.4	98.5	43.5	14.7	56.5
#8	1.3	6.9	83.5	33.9	9.6	66.1
#16	1.2	2.9	67.7	27.1	6.8	72.9
#30	1.0	2.0	51.4	20.6	6.5	79.4
#50	0.8	1.7	27.5	11.2	9.3	88.8
#100	0.7	1.6	7.6	3.5	7.7	96.5
LBW	0.6	1.6	0.9	0.9	2.6	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:	63	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

PLANT #: **P-12**

Sample Date: 5/2/22

Concrete Grade: **P1M, 3500HP**

Contractor: _____

Dates Test Represents: 5/3/2022 through 5/9/2022

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%



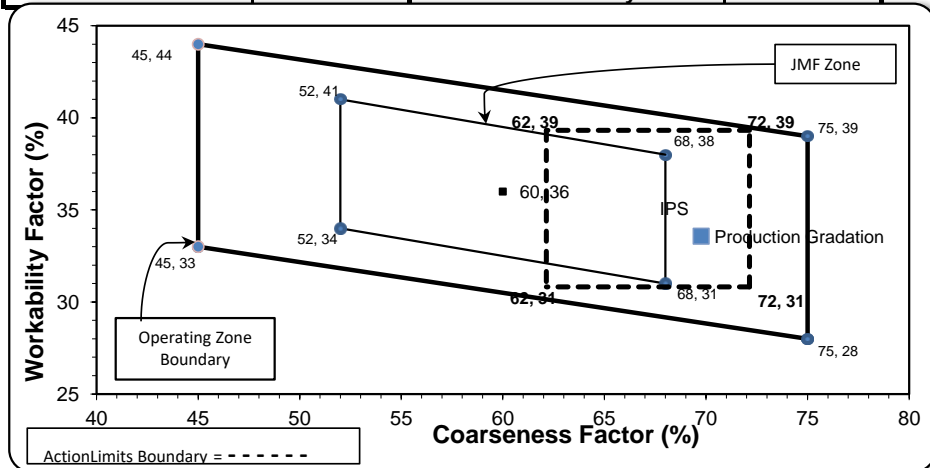
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 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	93.6	100.0	100.0	98.0	2.0	2.0
1"	28.1	100.0	100.0	77.3	20.7	22.7
3/4"	2.9	96.8	100.0	68.4	8.8	31.6
1/2"	1.2	70.7	100.0	60.7	7.8	39.3
3/8"	1.2	45.4	100.0	53.7	7.0	46.3
#4	1.2	10.3	96.4	42.5	11.2	57.5
#8	1.2	5.2	78.0	33.6	8.9	66.4
#16	1.1	4.0	61.3	26.4	7.2	73.6
#30	1.1	3.3	45.7	19.9	6.5	80.1
#50	1.0	2.9	23.8	10.8	9.1	89.2
#100	1.0	2.6	4.5	2.9	7.9	97.1
LBW	0.7	1.9	0.9	1.1	1.8	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:	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: 5/2/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 5/3/2022 through 5/9/2022

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	870	5.32	2.62	28.3
IA	71-47	Presque Isle	950	5.81	2.62	30.9
2NS	95-013	Smelter Bay	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



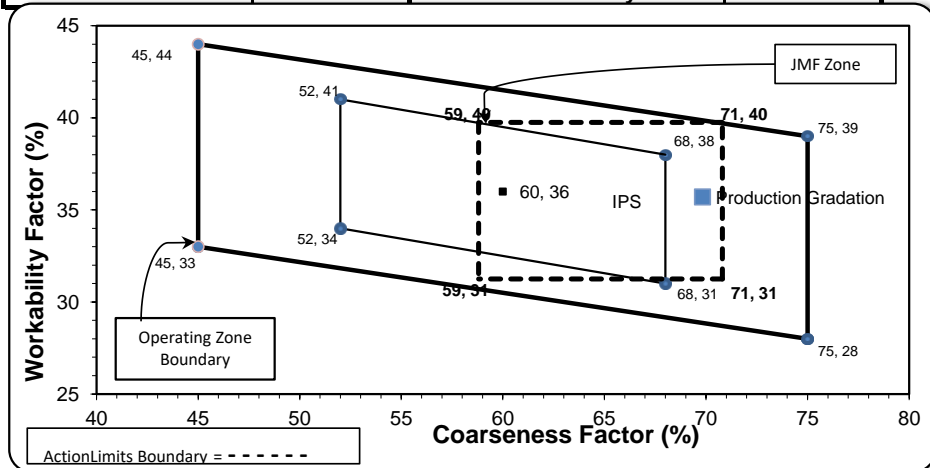
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 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	93.6	100.0	100.0	98.2	1.8	1.8
1"	28.1	100.0	100.0	79.6	18.6	20.4
3/4"	2.9	96.8	100.0	71.5	8.1	28.5
1/2"	1.2	70.7	100.0	62.9	8.6	37.1
3/8"	1.2	45.4	100.0	55.1	7.8	44.9
#4	1.2	10.3	95.5	42.4	12.7	57.6
#8	1.2	5.2	82.9	35.7	6.7	64.3
#16	1.1	4.0	68.2	29.3	6.4	70.7
#30	1.1	3.3	49.6	21.5	7.8	78.5
#50	1.0	2.9	24.2	11.0	10.5	89.0
#100	1.0	2.6	7.1	4.0	7.1	96.0
LBW	0.7	1.9	1.6	1.4	2.5	98.6

*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:	36
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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

PLANT #: **P-35**

Sample Date: 5/2/22

Concrete Grade: **P1M, 3500HP**

Contractor: _____

Dates Test Represents: 5/3/2022 through 5/9/2022

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%



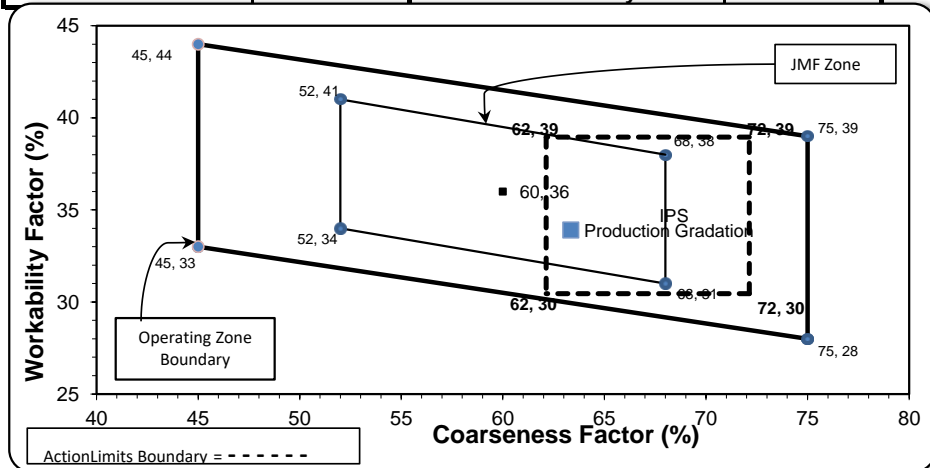
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	67.0	100.0	100.0	85.5	14.5	14.5
3/4"	33.3	100.0	100.0	70.7	14.8	29.3
1/2"	18.7	91.8	100.0	62.9	7.9	37.1
3/8"	11.8	82.2	100.0	58.1	4.7	41.9
#4	2.1	26.4	98.5	43.5	14.7	56.5
#8	1.3	6.9	83.5	33.9	9.6	66.1
#16	1.2	2.9	67.7	27.1	6.8	72.9
#30	1.0	2.0	51.4	20.6	6.5	79.4
#50	0.8	1.7	27.5	11.2	9.3	88.8
#100	0.7	1.6	7.6	3.5	7.7	96.5
LBW	0.6	1.6	0.9	0.9	2.6	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:	63	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"	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: 5/2/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 5/3/2022 through 5/9/2022

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	920	5.63	2.62	30.0
IA	71-47	Presque Isle	950	5.81	2.62	30.9
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



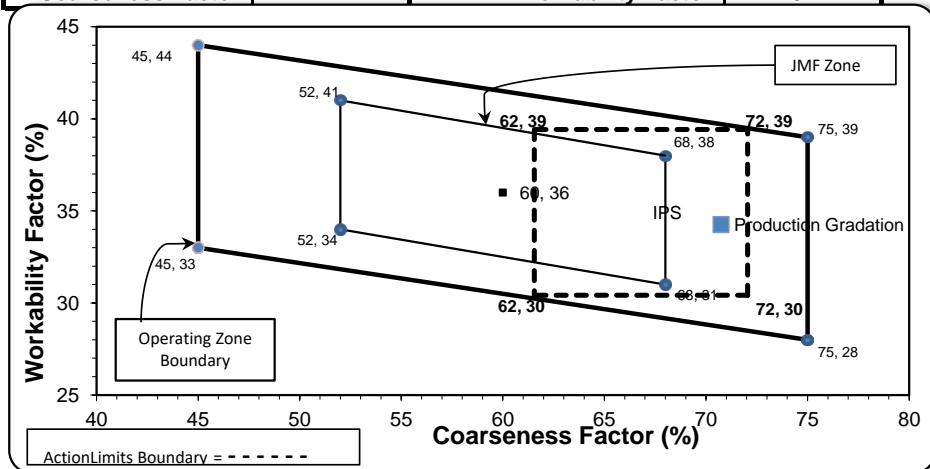
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	93.6	100.0	100.0	98.1	1.9	1.9
1"	28.1	100.0	100.0	78.5	19.6	21.5
3/4"	2.9	96.8	100.0	69.9	8.5	30.1
1/2"	1.2	70.7	100.0	61.3	8.6	38.7
3/8"	1.2	45.4	100.0	53.5	7.8	46.5
#4	1.2	10.3	97.3	41.6	11.9	58.4
#8	1.2	5.2	82.6	34.3	7.3	65.7
#16	1.1	4.0	66.8	27.7	6.6	72.3
#30	1.1	3.3	48.6	20.3	7.3	79.7
#50	1.0	2.9	22.6	10.0	10.3	90.0
#100	1.0	2.6	3.2	2.4	7.7	97.6
LBW	0.7	1.9	0.4	1.0	1.4	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:	71	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"	72.1	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: 5/2/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 5/3/2022 through 5/9/2022

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%



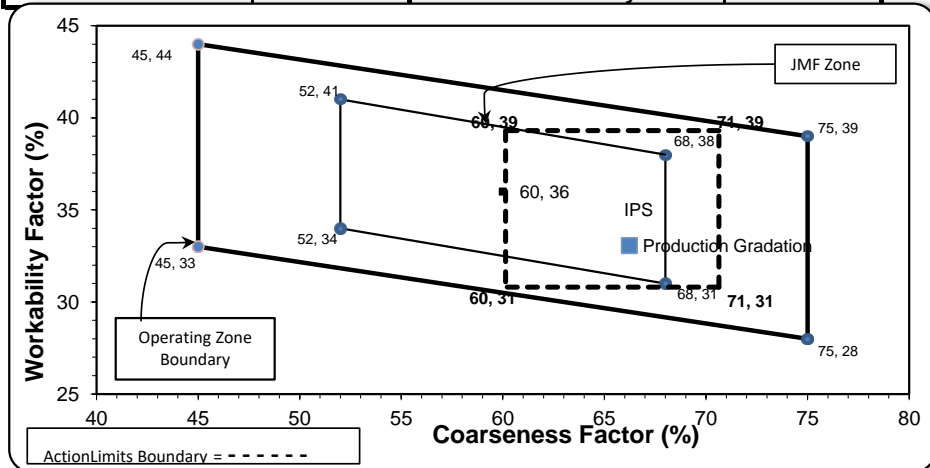
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	97.4	100.0	100.0	99.1	0.9	0.9
1"	47.8	100.0	100.0	82.7	16.5	17.3
3/4"	12.8	98.5	100.0	70.6	12.0	29.4
1/2"	3.4	79.4	100.0	62.5	8.1	37.5
3/8"	2.5	54.2	100.0	55.7	6.9	44.3
#4	1.9	6.1	96.4	41.5	14.2	58.5
#8	1.8	2.4	78.2	33.1	8.4	66.9
#16	1.8	2.0	62.2	26.4	6.6	73.6
#30	1.7	1.8	46.2	19.8	6.6	80.2
#50	1.6	1.7	25.1	11.2	8.7	88.8
#100	1.6	1.5	8.4	4.3	6.9	95.7
LBW	1.4	1.4	1.0	1.2	3.1	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: 33**



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: 5/2/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 5/3/2022 through 5/9/2022

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%



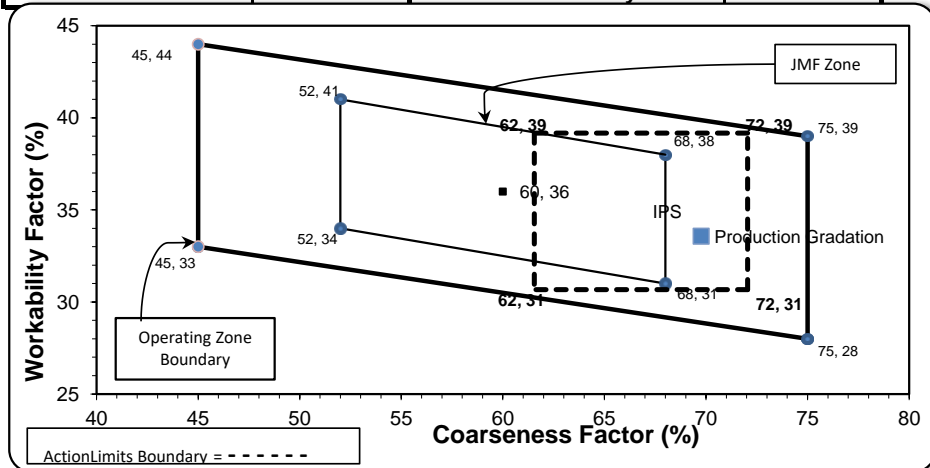
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	93.6	100.0	100.0	98.0	2.0	2.0
1"	28.1	100.0	100.0	77.3	20.7	22.7
3/4"	2.9	96.8	100.0	68.4	8.8	31.6
1/2"	1.2	70.7	100.0	60.7	7.8	39.3
3/8"	1.2	45.4	100.0	53.7	7.0	46.3
#4	1.2	10.3	96.4	42.5	11.2	57.5
#8	1.2	5.2	78.0	33.6	8.9	66.4
#16	1.1	4.0	61.3	26.4	7.2	73.6
#30	1.1	3.3	45.7	19.9	6.5	80.1
#50	1.0	2.9	23.8	10.8	9.1	89.2
#100	1.0	2.6	4.5	2.9	7.9	97.1
LBW	0.7	1.9	0.9	1.1	1.8	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: **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: