

Aggregate Optimization Chart

PLANT #: **P-101**

Sample Date: 6/6/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 6/7/2022 through 6/13/2022

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"	97.0	100.0	100.0	99.0	1.0	1.0
1"	46.2	100.0	100.0	81.2	17.7	18.8
3/4"	13.3	98.6	100.0	69.4	11.8	30.6
1/2"	3.7	77.7	100.0	60.6	8.8	39.4
3/8"	2.7	51.6	100.0	53.5	7.1	46.5
#4	2.0	15.0	98.7	43.2	10.3	56.8
#8	1.9	6.8	83.7	35.2	8.0	64.8
#16	1.8	4.1	68.3	28.4	6.8	71.6
#30	1.7	3.3	52.1	21.8	6.6	78.2
#50	1.6	3.0	25.7	11.4	10.4	88.6
#100	1.5	2.8	6.4	3.8	7.6	96.2
LBW	1.4	2.5	0.9	1.5	2.3	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

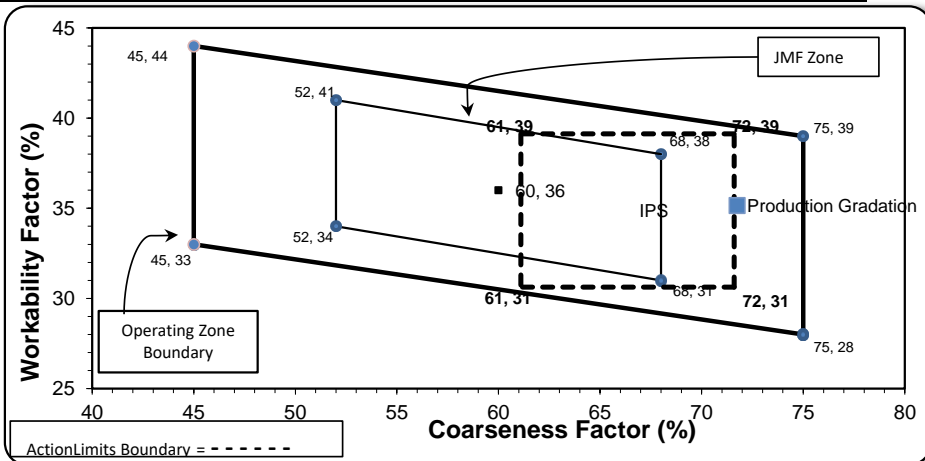
Coarseness Factor: **72** **Workability Factor:** **35**

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: 6/6/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 6/7/2022 through 6/13/2022

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%



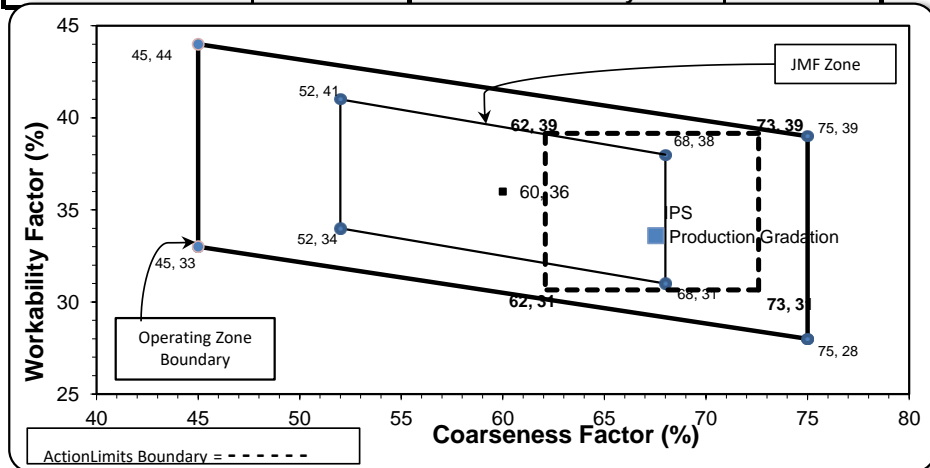
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 Suite 500
 Farmington Hills, MI 48336

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"	66.0	100.0	100.0	85.1	14.9	14.9
3/4"	38.0	100.0	100.0	72.8	12.3	27.2
1/2"	15.2	94.2	100.0	61.7	11.0	38.3
3/8"	6.4	78.8	100.0	55.2	6.6	44.8
#4	2.0	23.7	98.4	42.9	12.3	57.1
#8	1.4	6.9	82.6	33.6	9.3	66.4
#16	1.4	2.8	64.8	26.0	7.6	74.0
#30	1.3	2.0	46.9	19.0	7.1	81.0
#50	1.1	1.8	22.9	9.6	9.4	90.4
#100	1.1	1.7	7.0	3.5	6.1	96.5
LBW	0.9	1.5	1.2	1.1	2.4	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: **68** **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: 6/6/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 6/7/2022 through 6/13/2022

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%



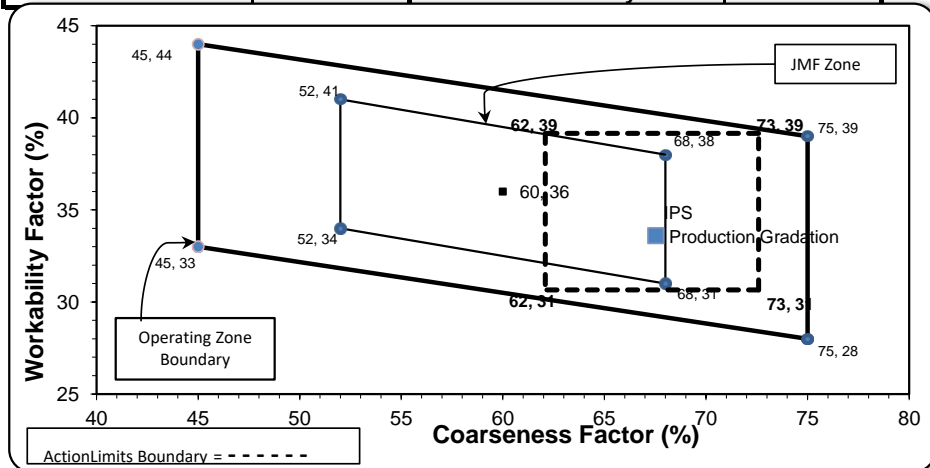
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Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	66.0	100.0	100.0	85.1	14.9	14.9
3/4"	38.0	100.0	100.0	72.8	12.3	27.2
1/2"	15.2	94.2	100.0	61.7	11.0	38.3
3/8"	6.4	78.8	100.0	55.2	6.6	44.8
#4	2.0	23.7	98.4	42.9	12.3	57.1
#8	1.4	6.9	82.6	33.6	9.3	66.4
#16	1.4	2.8	64.8	26.0	7.6	74.0
#30	1.3	2.0	46.9	19.0	7.1	81.0
#50	1.1	1.8	22.9	9.6	9.4	90.4
#100	1.1	1.7	7.0	3.5	6.1	96.5
LBW	0.9	1.5	1.2	1.1	2.4	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: **68** **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:
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Aggregate Optimization Chart

PLANT #: **P-12**

Sample Date: 6/6/22

Concrete Grade: **P1M, 3500HP**

Contractor: _____

Dates Test Represents: 6/7/2022 through 6/13/2022

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	800	4.89	2.62	26.1
IA	71-47	Presque Isle	1020	6.24	2.62	33.2
2NS	63-115	Ray Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



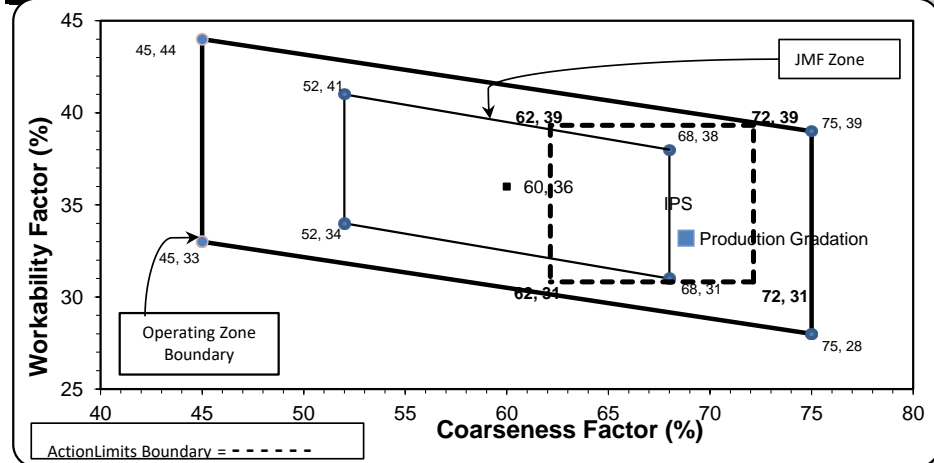
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Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.5	100.0	100.0	98.8	1.2	1.2
1"	41.1	100.0	100.0	84.7	14.2	15.3
3/4"	7.4	98.8	100.0	75.5	9.2	24.5
1/2"	1.4	67.4	100.0	63.5	12.0	36.5
3/8"	1.2	39.1	100.0	54.0	9.5	46.0
#4	1.2	5.1	96.8	41.4	12.6	58.6
#8	1.2	1.9	79.2	33.2	8.2	66.8
#16	1.2	1.8	61.0	25.7	7.4	74.3
#30	1.2	1.7	43.2	18.5	7.3	81.5
#50	1.2	1.7	23.1	10.3	8.2	89.7
#100	1.1	1.6	5.3	3.0	7.3	97.0
LBW	0.9	1.2	1.1	1.1	1.9	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:	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

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-32**

Sample Date: **6/6/22**

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: **6/7/2022** through **6/13/2022**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	750	4.59	2.62	24.4
IA	71-47	Presque Isle	1070	6.54	2.62	34.9
2NS	95-013	Smelter Bay	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



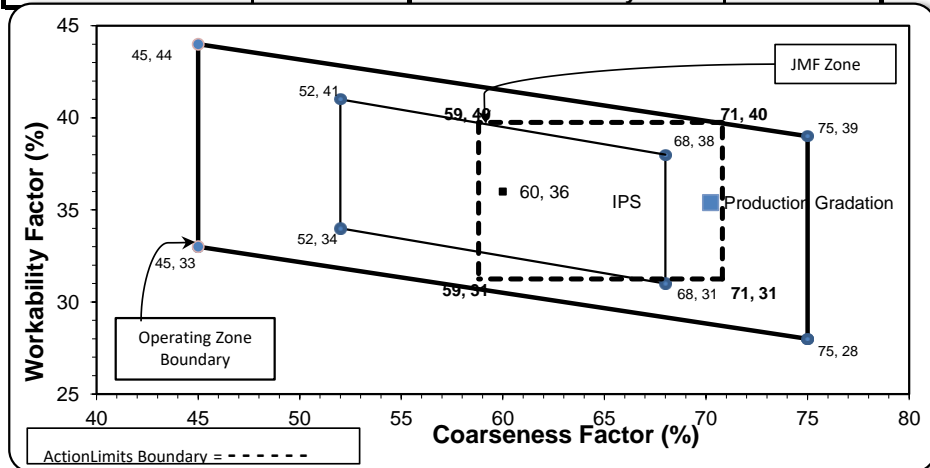
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 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.5	100.0	100.0	98.9	1.1	1.1
1"	41.1	100.0	100.0	85.6	13.3	14.4
3/4"	7.4	98.8	100.0	77.0	8.7	23.0
1/2"	1.4	67.4	100.0	64.5	12.4	35.5
3/8"	1.2	39.1	100.0	54.6	9.9	45.4
#4	1.2	5.1	96.6	41.4	13.2	58.6
#8	1.2	1.9	84.6	35.4	6.0	64.6
#16	1.2	1.8	69.8	29.3	6.1	70.7
#30	1.2	1.7	50.8	21.6	7.8	78.4
#50	1.2	1.7	24.5	10.9	10.7	89.1
#100	1.1	1.6	6.9	3.6	7.2	96.4
LBW	0.9	1.2	1.3	1.2	2.5	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**



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: 6/6/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 6/7/2022 through 6/13/2022

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%



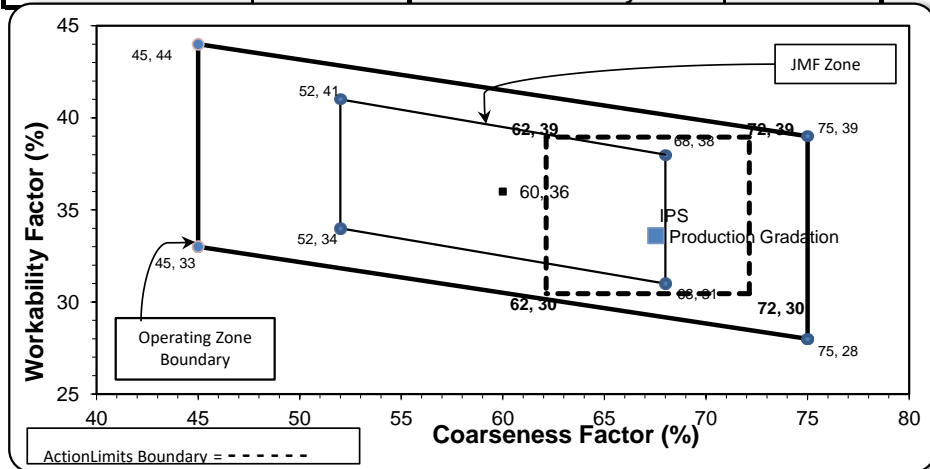
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 Suite 500
 Farmington Hills, MI 48336

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"	66.0	100.0	100.0	85.1	14.9	14.9
3/4"	38.0	100.0	100.0	72.8	12.3	27.2
1/2"	15.2	94.2	100.0	61.7	11.0	38.3
3/8"	6.4	78.8	100.0	55.2	6.6	44.8
#4	2.0	23.7	98.4	42.9	12.3	57.1
#8	1.4	6.9	82.6	33.6	9.3	66.4
#16	1.4	2.8	64.8	26.0	7.6	74.0
#30	1.3	2.0	46.9	19.0	7.1	81.0
#50	1.1	1.8	22.9	9.6	9.4	90.4
#100	1.1	1.7	7.0	3.5	6.1	96.5
LBW	0.9	1.5	1.2	1.1	2.4	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: **68** **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: **6/6/22**

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: **6/7/2022** through **6/13/2022**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	800	4.89	2.62	26.1
IA	71-47	Presque Isle	1070	6.54	2.62	34.9
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



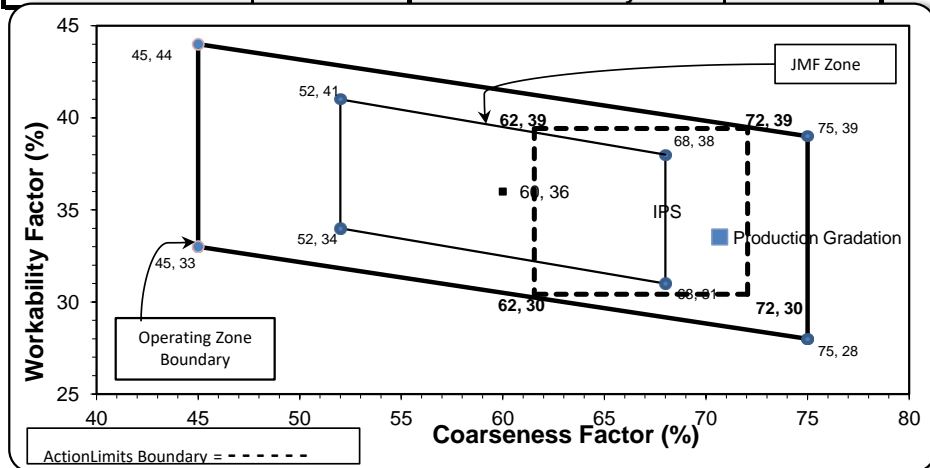
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.5	100.0	100.0	98.8	1.2	1.2
1"	41.1	100.0	100.0	84.7	14.2	15.3
3/4"	7.4	98.8	100.0	75.5	9.2	24.5
1/2"	1.4	67.4	100.0	62.9	12.5	37.1
3/8"	1.2	39.1	100.0	53.0	9.9	47.0
#4	1.2	5.1	97.4	40.2	12.9	59.8
#8	1.2	1.9	83.3	33.5	6.6	66.5
#16	1.2	1.8	69.1	27.9	5.6	72.1
#30	1.2	1.7	52.1	21.3	6.7	78.7
#50	1.2	1.7	25.0	10.7	10.6	89.3
#100	1.1	1.6	3.0	2.0	8.7	98.0
LBW	0.9	1.2	0.4	0.8	1.2	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: **71** **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: 6/6/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 6/7/2022 through 6/13/2022

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%



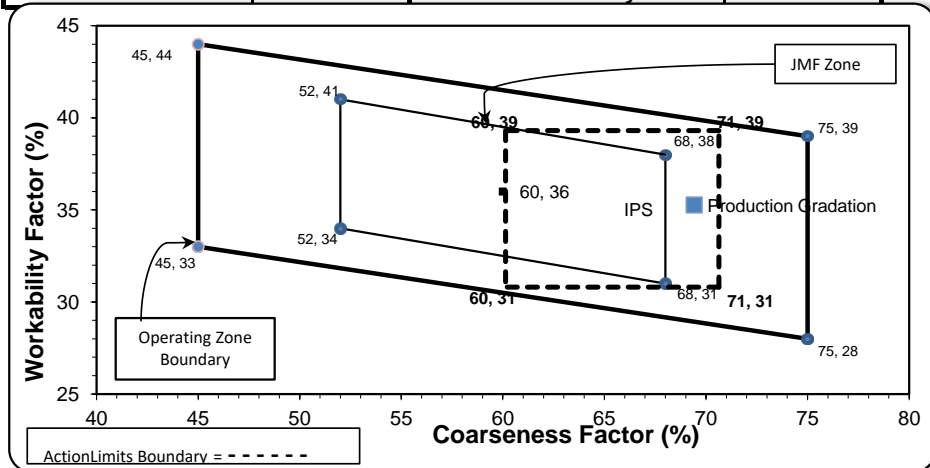
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	97.0	100.0	100.0	99.0	1.0	1.0
1"	46.2	100.0	100.0	82.1	16.9	17.9
3/4"	13.3	98.6	100.0	70.8	11.3	29.2
1/2"	3.7	77.7	100.0	62.2	8.6	37.8
3/8"	2.7	51.6	100.0	55.1	7.1	44.9
#4	2.0	15.0	96.1	43.7	11.4	56.3
#8	1.9	6.8	80.7	35.3	8.4	64.7
#16	1.8	4.1	66.1	28.6	6.7	71.4
#30	1.7	3.3	50.0	21.8	6.8	78.2
#50	1.6	3.0	26.1	11.9	9.8	88.1
#100	1.5	2.8	10.0	5.3	6.6	94.7
LBW	1.4	2.5	2.1	2.0	3.3	98.0

*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:** **35**



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: 6/6/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 6/7/2022 through 6/13/2022

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	750	4.59	2.62	24.4
IA	71-47	Presque Isle	1070	6.54	2.62	34.9
2NS	63-115	Ray Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



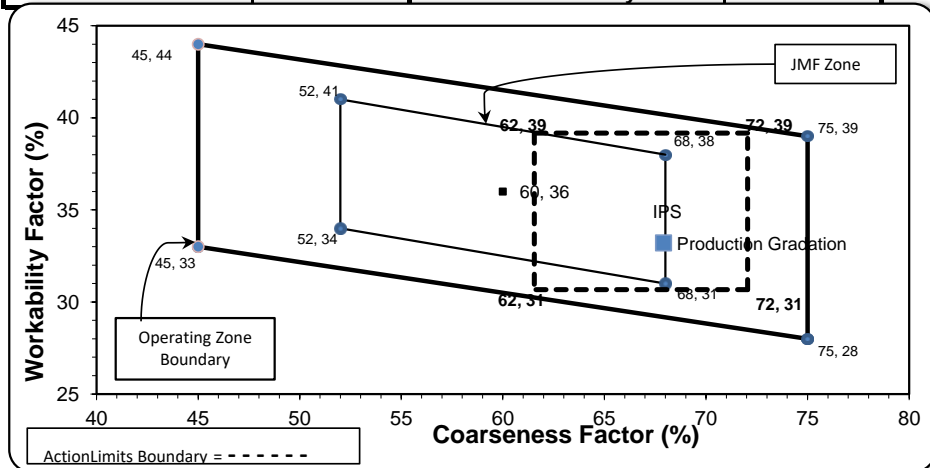
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.5	100.0	100.0	98.9	1.1	1.1
1"	41.1	100.0	100.0	85.6	13.3	14.4
3/4"	7.4	98.8	100.0	77.0	8.7	23.0
1/2"	1.4	67.4	100.0	64.5	12.4	35.5
3/8"	1.2	39.1	100.0	54.6	9.9	45.4
#4	1.2	5.1	96.8	41.5	13.2	58.5
#8	1.2	1.9	79.2	33.2	8.3	66.8
#16	1.2	1.8	61.0	25.8	7.4	74.2
#30	1.2	1.7	43.2	18.5	7.3	81.5
#50	1.2	1.7	23.1	10.3	8.2	89.7
#100	1.1	1.6	5.3	3.0	7.3	97.0
LBW	0.9	1.2	1.1	1.1	1.9	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: **68** **Workability Factor:** **33**



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: