

Aggregate Optimization Chart

PLANT #: **P-101**

Sample Date: 9/20/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/21/2021 through 9/27/2021

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"	96.6	100.0	100.0	98.8	1.2	1.2
1"	46.9	100.0	100.0	81.5	17.3	18.5
3/4"	12.7	99.0	100.0	69.3	12.2	30.7
1/2"	3.7	80.0	100.0	61.2	8.1	38.8
3/8"	2.7	56.2	100.0	54.7	6.6	45.3
#4	2.1	10.9	99.0	42.3	12.4	57.7
#8	1.9	2.8	83.2	33.9	8.4	66.1
#16	1.8	2.0	67.3	27.5	6.5	72.5
#30	1.8	1.8	51.5	21.2	6.2	78.8
#50	1.7	1.6	25.3	10.9	10.3	89.1
#100	1.6	1.6	5.9	3.3	7.6	96.7
LBW	1.4	1.4	0.7	1.1	2.2	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.

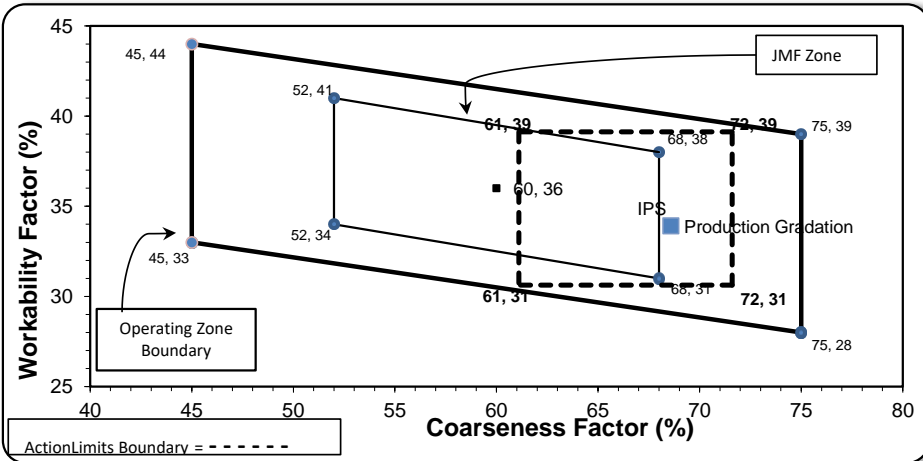
Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	69	Workability Factor:	34
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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: 9/20/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/21/2021 through 9/27/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	58-003	Stoneco	1420	8.46	2.69	45.5
IA	58-003	Stoneco	500	2.98	2.69	16.0
2NS	63-114	Highland	1200	7.26	2.65	38.5
Total Wt			3120	18.70		100.0

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



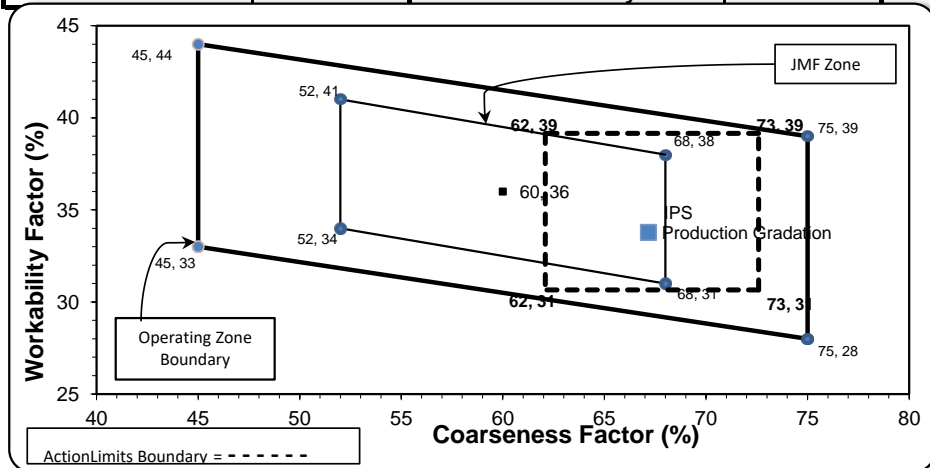
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 Suite 500
 Farmington Hills, MI 48336

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"	67.6	100.0	100.0	85.3	14.7	14.7
3/4"	47.8	100.0	100.0	76.2	9.0	23.8
1/2"	15.6	93.3	100.0	60.5	15.7	39.5
3/8"	8.4	82.6	100.0	55.5	5.0	44.5
#4	2.0	26.4	98.8	43.1	12.4	56.9
#8	1.2	7.0	83.5	33.8	9.4	66.2
#16	1.0	2.8	66.2	26.4	7.4	73.6
#30	0.8	2.0	47.0	18.8	7.6	81.2
#50	0.8	1.8	20.4	8.5	10.3	91.5
#100	0.7	1.6	4.4	2.3	6.2	97.7
LBW	0.6	1.4	0.8	0.8	1.5	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:	67	Workability Factor:	34
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Intial 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: 9/20/21 Concrete Grade: **P1M**
 Dates Test Represents: 9/21/2021 through 9/27/2021

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	63-115	Ray Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



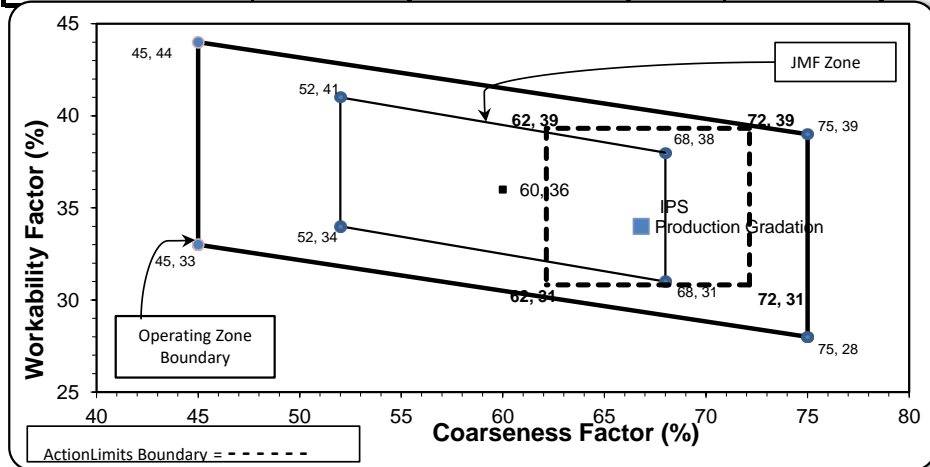
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 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.5	100.0	100.0	98.5	1.5	1.5
1"	50.0	100.0	100.0	83.4	15.1	16.6
3/4"	18.3	99.6	100.0	72.8	10.6	27.2
1/2"	8.4	84.4	100.0	65.5	7.3	34.5
3/8"	6.4	50.1	100.0	55.9	9.6	44.1
#4	4.1	15.8	95.7	44.4	11.5	55.6
#8	3.2	3.4	78.7	34.0	10.5	66.0
#16	2.9	2.1	63.0	27.2	6.8	72.8
#30	2.7	1.8	47.9	20.9	6.3	79.1
#50	2.5	1.7	26.9	12.2	8.6	87.8
#100	2.3	1.6	6.1	3.7	8.6	96.3
LBW	1.5	1.2	0.8	1.1	2.5	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: **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"	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

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Aggregate Optimization Chart

PLANT #: **P-20**

Sample Date: 9/20/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/21/2021 through 9/27/2021

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	850	5.20	2.62	27.7
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



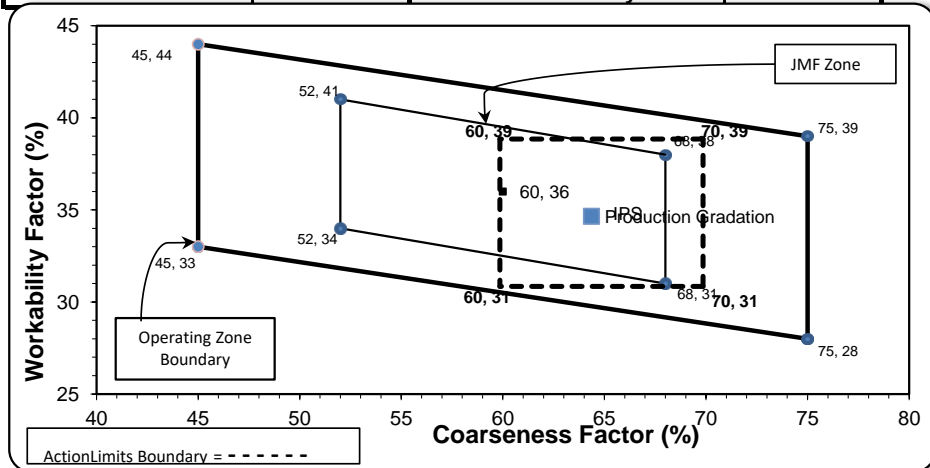
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Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	97.0	100.0	100.0	99.0	1.0	1.0
1"	49.0	100.0	100.0	83.1	15.9	16.9
3/4"	11.7	98.5	100.0	70.2	12.8	29.8
1/2"	3.2	85.4	100.0	63.8	6.5	36.2
3/8"	2.5	65.1	100.0	57.9	5.9	42.1
#4	2.0	13.9	97.7	42.7	15.2	57.3
#8	1.8	3.3	84.8	34.7	8.0	65.3
#16	1.7	1.9	69.5	28.3	6.4	71.7
#30	1.6	1.7	50.4	20.7	7.6	79.3
#50	1.6	1.6	22.5	9.8	10.9	90.2
#100	1.5	1.5	3.7	2.4	7.4	97.6
LBW	1.3	1.4	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:	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"	99.1	0.9	0.9
1"	80.8	18.2	19.2
3/4"	71.3	9.6	28.7
1/2"	64.0	7.3	36.0
3/8"	57.7	6.2	42.3
#4	42.8	15.0	57.2
#8	34.8	7.9	65.2
#16	28.4	6.4	71.6
#30	20.2	8.2	79.8
#50	7.6	12.6	92.4
#100	1.6	6.0	98.4
LBW	1.0	0.6	99.0

PREPARED BY:
 SM, LLC Technical Service

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Aggregate Optimization Chart

PLANT #: **P-32**

Sample Date: 9/20/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/21/2021 through 9/27/2021

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	95-013	Smelter Bay	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



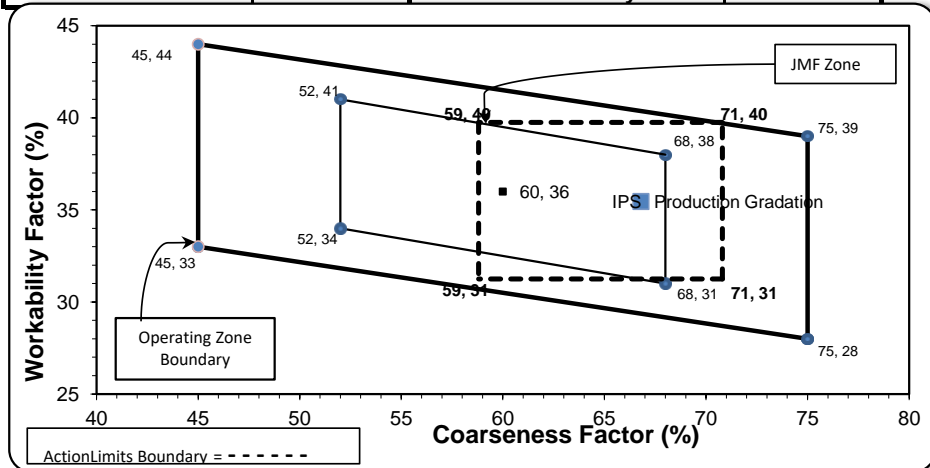
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Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.5	100.0	100.0	98.6	1.4	1.4
1"	50.0	100.0	100.0	84.5	14.1	15.5
3/4"	18.3	99.6	100.0	74.6	9.9	25.4
1/2"	8.4	84.4	100.0	67.2	7.4	32.8
3/8"	6.4	50.1	100.0	56.9	10.3	43.1
#4	4.1	15.8	95.0	44.4	12.5	55.6
#8	3.2	3.4	82.3	35.5	9.0	64.5
#16	2.9	2.1	67.3	28.9	6.6	71.1
#30	2.7	1.8	49.4	21.5	7.4	78.5
#50	2.5	1.7	25.2	11.5	9.9	88.5
#100	2.3	1.6	8.2	4.5	7.0	95.5
LBW	1.5	1.2	1.6	1.5	3.0	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: **67** **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: 9/20/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/21/2021 through 9/27/2021

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	81-093	Burmeister	1200	7.26	2.65	38.5
Total Wt			3120	18.70		100.0

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



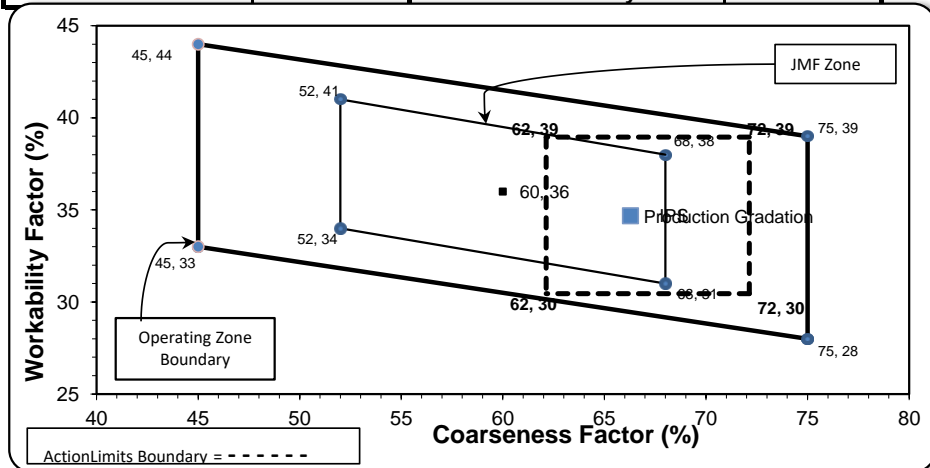
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	67.6	100.0	100.0	85.8	14.2	14.2
3/4"	47.8	100.0	100.0	77.1	8.7	22.9
1/2"	15.6	93.3	100.0	61.8	15.3	38.2
3/8"	8.4	82.6	100.0	56.7	5.0	43.3
#4	2.0	26.4	98.8	43.5	13.2	56.5
#8	1.2	7.0	85.6	34.7	8.8	65.3
#16	1.0	2.8	68.5	27.3	7.4	72.7
#30	0.8	2.0	48.2	19.2	8.0	80.8
#50	0.8	1.8	15.0	6.4	12.8	93.6
#100	0.7	1.6	1.9	1.3	5.1	98.7
LBW	0.6	1.4	0.5	0.7	0.6	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:	66	Workability Factor:	35
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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: 9/20/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/21/2021 through 9/27/2021

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%



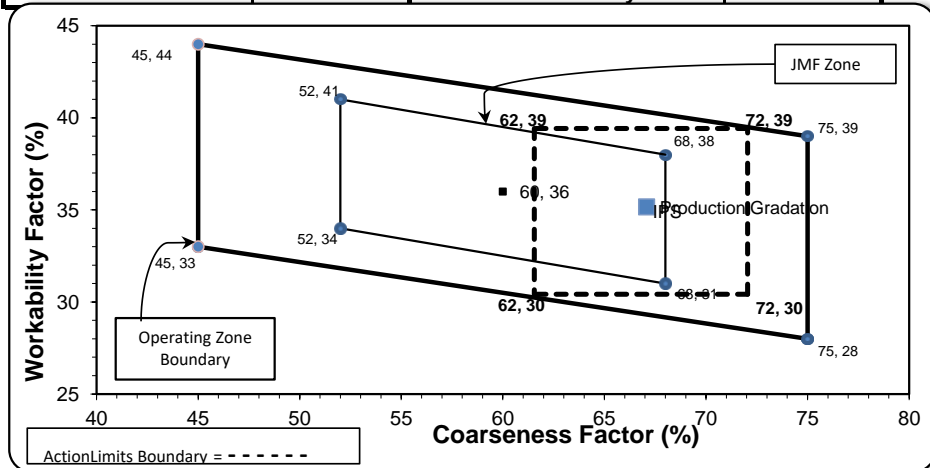
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.5	100.0	100.0	98.7	1.3	1.3
1"	50.0	100.0	100.0	85.0	13.6	15.0
3/4"	18.3	99.6	100.0	75.4	9.6	24.6
1/2"	8.4	84.4	100.0	67.7	7.7	32.3
3/8"	6.4	50.1	100.0	56.5	11.2	43.5
#4	4.1	15.8	97.7	44.3	12.2	55.7
#8	3.2	3.4	84.8	35.2	9.1	64.8
#16	2.9	2.1	69.5	28.7	6.5	71.3
#30	2.7	1.8	50.4	21.1	7.6	78.9
#50	2.5	1.7	22.5	10.1	11.0	89.9
#100	2.3	1.6	3.7	2.6	7.4	97.4
LBW	1.5	1.2	0.4	1.0	1.7	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: **67** **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: 9/20/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/21/2021 through 9/27/2021

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	750	4.59	2.62	24.4
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%



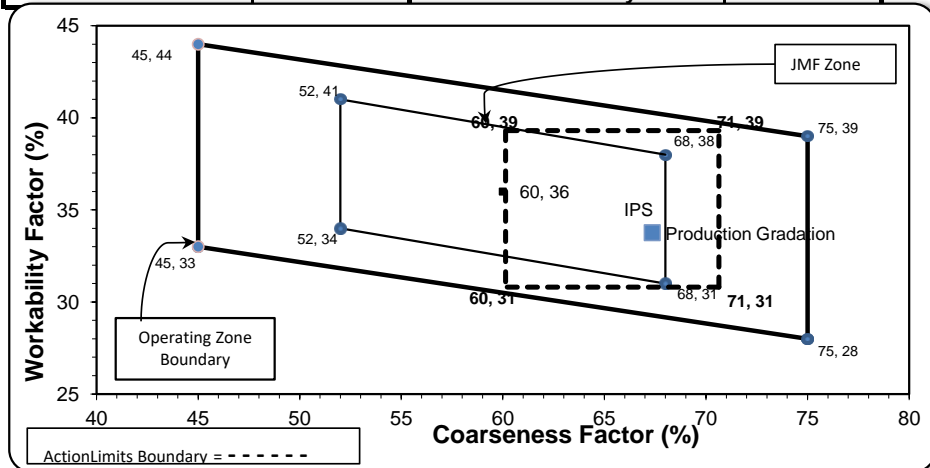
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.6	100.0	100.0	98.8	1.2	1.2
1"	46.9	100.0	100.0	81.5	17.3	18.5
3/4"	12.7	99.0	100.0	69.3	12.2	30.7
1/2"	3.7	80.0	100.0	61.6	7.8	38.4
3/8"	2.7	56.2	100.0	55.4	6.2	44.6
#4	2.1	10.9	97.4	43.1	12.3	56.9
#8	1.9	2.8	79.6	33.8	9.3	66.2
#16	1.8	2.0	63.6	27.0	6.7	73.0
#30	1.8	1.8	48.4	20.8	6.2	79.2
#50	1.7	1.6	26.7	11.9	8.9	88.1
#100	1.6	1.6	8.9	4.6	7.3	95.4
LBW	1.4	1.4	1.2	1.3	3.3	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.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **67** **Workability Factor:** **34**



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: 9/20/21 Concrete Grade: **P1M**
 Dates Test Represents: 9/21/2021 through 9/27/2021

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%



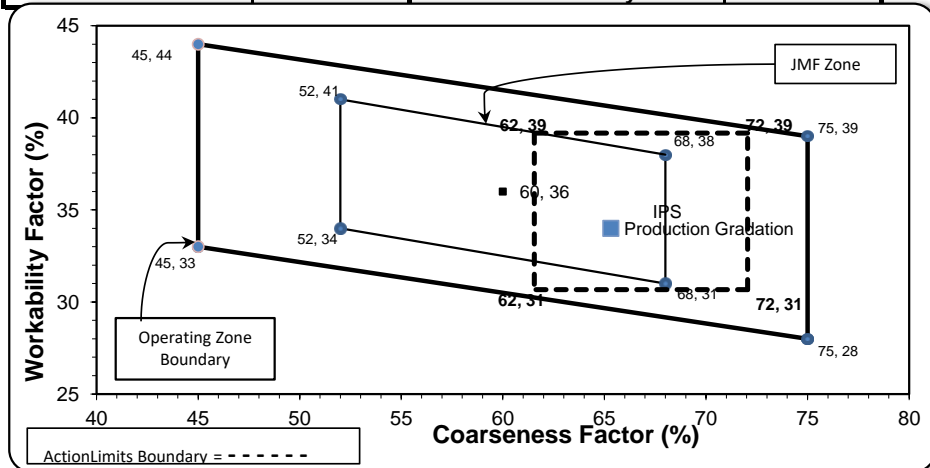
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.5	100.0	100.0	98.6	1.4	1.4
1"	50.0	100.0	100.0	84.5	14.1	15.5
3/4"	18.3	99.6	100.0	74.6	9.9	25.4
1/2"	8.4	84.4	100.0	67.2	7.4	32.8
3/8"	6.4	50.1	100.0	56.9	10.3	43.1
#4	4.1	15.8	95.7	44.7	12.2	55.3
#8	3.2	3.4	78.7	34.0	10.7	66.0
#16	2.9	2.1	63.0	27.1	6.9	72.9
#30	2.7	1.8	47.9	20.8	6.3	79.2
#50	2.5	1.7	26.9	12.2	8.6	87.8
#100	2.3	1.6	6.1	3.6	8.6	96.4
LBW	1.5	1.2	0.8	1.1	2.5	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:** **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: