

Aggregate Optimization Chart

PLANT #: **P-101**

Sample Date: 7/12/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 7/13/2021 through 7/19/2021

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"	98.8	100.0	100.0	99.6	0.4	0.4
1"	50.3	100.0	100.0	82.7	16.9	17.3
3/4"	13.6	98.6	100.0	69.5	13.2	30.5
1/2"	3.8	79.1	100.0	61.0	8.5	39.0
3/8"	2.8	54.4	100.0	54.2	6.8	45.8
#4	2.1	13.6	99.3	43.1	11.1	56.9
#8	1.9	4.2	83.9	34.6	8.5	65.4
#16	1.8	2.7	68.9	28.3	6.3	71.7
#30	1.8	2.3	53.6	22.2	6.1	77.8
#50	1.7	2.1	27.6	11.9	10.2	88.1
#100	1.6	1.9	6.5	3.6	8.3	96.4
LBW	1.4	1.8	0.7	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

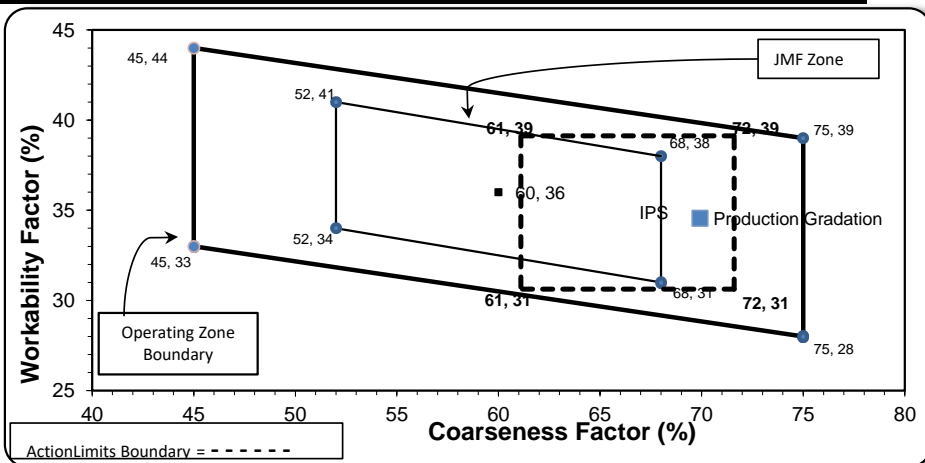
Coarseness Factor:	70	Workability Factor:	35
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Initial Production Sample (IPS)

Coarseness Factor:	66
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Workability Factor:	35
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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: 7/12/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 7/13/2021 through 7/19/2021

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%



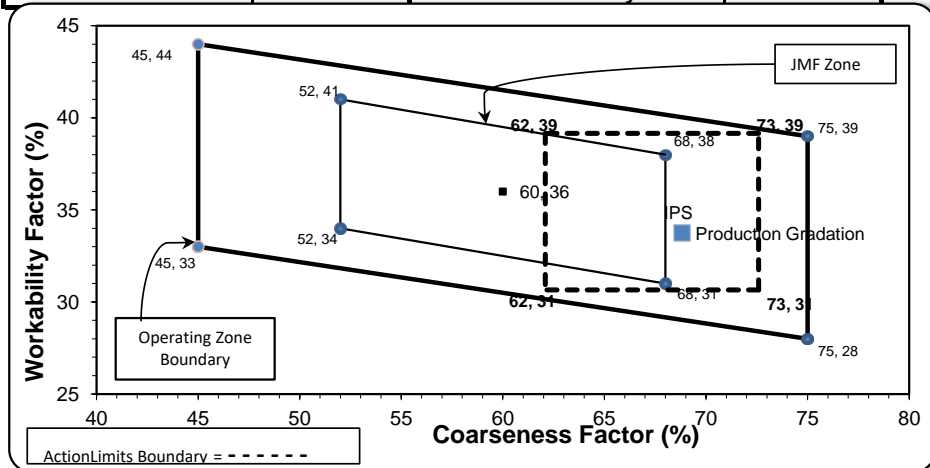
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 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	63.9	100.0	100.0	83.6	16.4	16.4
3/4"	30.1	100.0	100.0	68.2	15.4	31.8
1/2"	11.1	94.8	100.0	58.7	9.5	41.3
3/8"	6.5	81.0	100.0	54.4	4.3	45.6
#4	2.2	23.9	99.1	42.9	11.5	57.1
#8	1.6	7.8	82.6	33.7	9.2	66.3
#16	1.3	4.2	63.1	25.5	8.2	74.5
#30	1.1	2.7	43.5	17.7	7.9	82.3
#50	1.1	2.3	19.8	8.5	9.2	91.5
#100	1.0	2.1	4.9	2.7	5.8	97.3
LBW	0.9	1.9	0.4	0.9	1.8	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:	69	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: 7/12/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 7/13/2021 through 7/19/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	820	5.02	2.62	26.7
IA	71-47	Presque Isle	1000	6.12	2.62	32.6
2NS	63-115	Ray Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



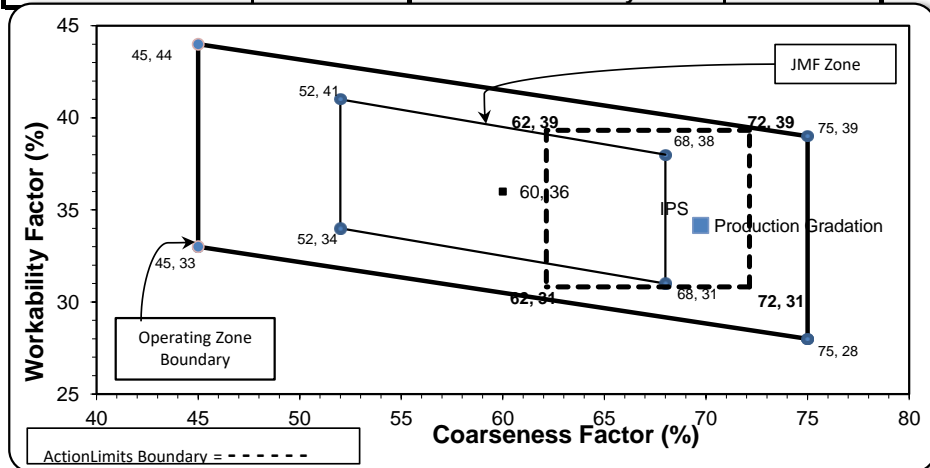
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 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	52.4	100.0	100.0	87.3	12.7	12.7
3/4"	11.0	97.6	100.0	75.4	11.8	24.6
1/2"	3.1	66.7	100.0	63.3	12.2	36.7
3/8"	2.5	39.0	100.0	54.1	9.2	45.9
#4	2.2	8.0	96.6	42.5	11.6	57.5
#8	2.1	3.4	79.8	34.2	8.4	65.8
#16	1.9	2.8	63.3	27.2	7.0	72.8
#30	1.8	2.7	47.1	20.5	6.7	79.5
#50	1.8	2.6	24.7	11.4	9.2	88.6
#100	1.7	2.4	5.3	3.4	8.0	96.6
LBW	1.4	2.0	0.7	1.3	2.1	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: **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

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Aggregate Optimization Chart

PLANT #: **P-20**

Sample Date: 7/12/21 Concrete Grade: **P1M**
 Dates Test Represents: 7/13/2021 through 7/19/2021

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	920	5.63	2.62	30.0
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



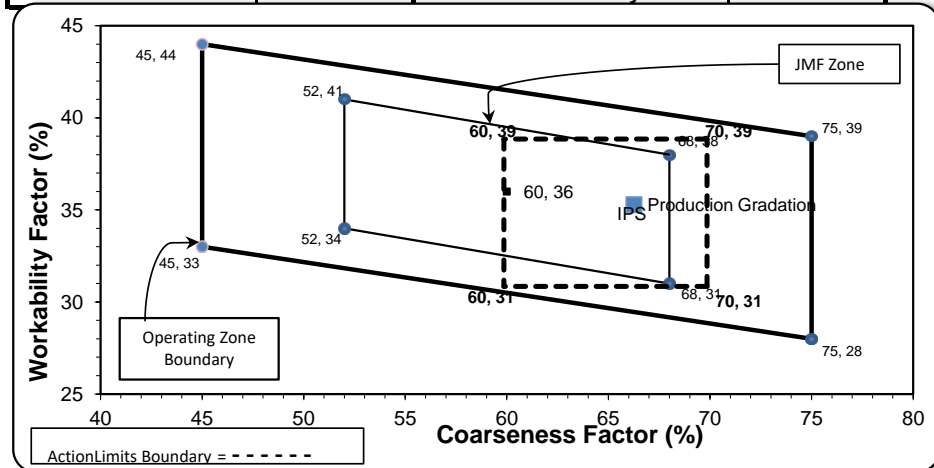
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Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.8	100.0	100.0	99.6	0.4	0.4
1"	51.4	100.0	100.0	85.0	14.7	15.0
3/4"	12.9	98.8	100.0	72.7	12.3	27.3
1/2"	3.4	80.5	100.0	64.3	8.4	35.7
3/8"	2.4	57.7	100.0	57.1	7.1	42.9
#4	1.7	16.5	98.1	43.8	13.3	56.2
#8	1.5	6.9	83.8	35.3	8.5	64.7
#16	1.4	4.3	67.8	28.2	7.1	71.8
#30	1.4	3.4	47.6	20.1	8.2	79.9
#50	1.3	3.0	20.2	9.2	10.9	90.8
#100	1.2	2.8	2.9	2.3	6.9	97.7
LBW	1.1	2.4	0.7	1.3	1.0	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:	66	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

Approved By:

Aggregate Optimization Chart

PLANT #: **P-32**

Sample Date: 7/12/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 7/13/2021 through 7/19/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	700	4.28	2.62	22.8
IA	71-47	Presque Isle	1120	6.85	2.62	36.5
2NS	95-013	Smelter Bay	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



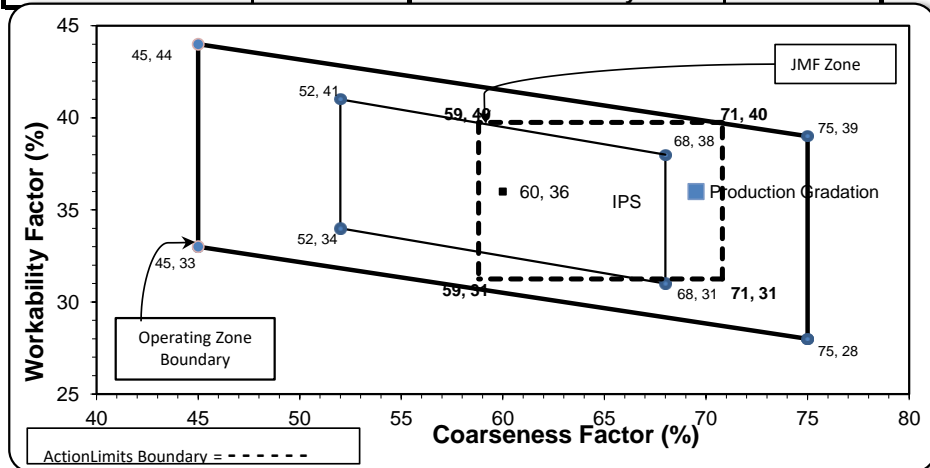
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 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	52.4	100.0	100.0	89.1	10.9	10.9
3/4"	11.0	97.6	100.0	78.8	10.3	21.2
1/2"	3.1	66.7	100.0	65.8	13.1	34.2
3/8"	2.5	39.0	100.0	55.5	10.2	44.5
#4	2.2	8.0	96.6	42.8	12.8	57.2
#8	2.1	3.4	84.2	36.0	6.7	64.0
#16	1.9	2.8	72.2	30.9	5.2	69.1
#30	1.8	2.7	48.1	21.0	9.9	79.0
#50	1.8	2.6	19.5	9.3	11.7	90.7
#100	1.7	2.4	4.5	3.1	6.2	96.9
LBW	1.4	2.0	1.8	1.8	1.3	98.2

*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:** **36**



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: 7/12/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 7/13/2021 through 7/19/2021

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%



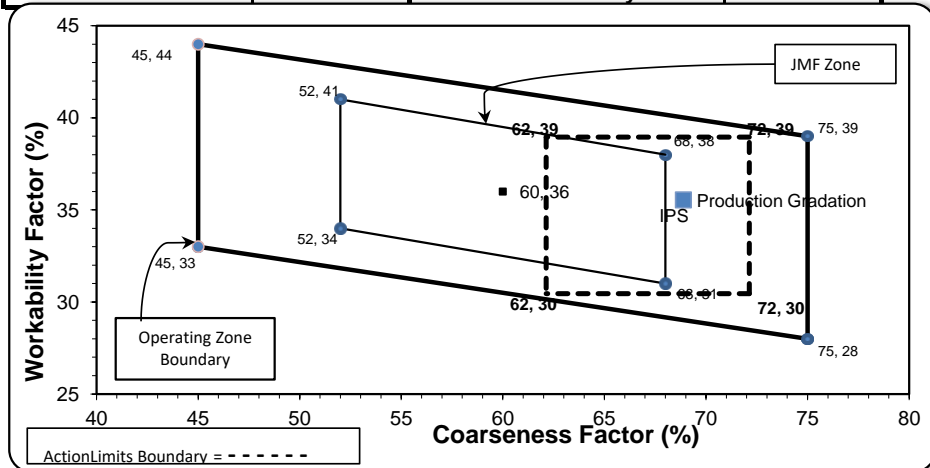
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	63.9	100.0	100.0	84.1	15.9	15.9
3/4"	30.1	100.0	100.0	69.3	14.8	30.7
1/2"	11.1	94.8	100.0	60.0	9.3	40.0
3/8"	6.5	81.0	100.0	55.6	4.5	44.4
#4	2.2	23.9	98.5	43.1	12.5	56.9
#8	1.6	7.8	87.0	35.5	7.5	64.5
#16	1.3	4.2	71.5	28.8	6.7	71.2
#30	1.1	2.7	50.9	20.5	8.3	79.5
#50	1.1	2.3	17.2	7.5	13.0	92.5
#100	1.0	2.1	2.6	1.8	5.7	98.2
LBW	0.9	1.9	0.7	1.0	0.8	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:** **36**



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: 7/12/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 7/13/2021 through 7/19/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	720	4.40	2.62	23.5
IA	71-47	Presque Isle	1150	7.03	2.62	37.5
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



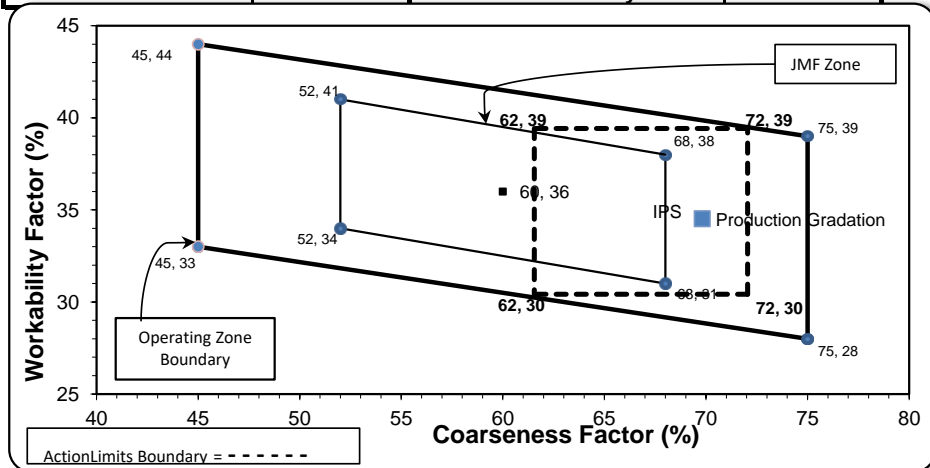
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	52.4	100.0	100.0	88.8	11.2	11.2
3/4"	11.0	97.6	100.0	78.2	10.6	21.8
1/2"	3.1	66.7	100.0	64.8	13.4	35.2
3/8"	2.5	39.0	100.0	54.3	10.5	45.7
#4	2.2	8.0	98.1	41.9	12.4	58.1
#8	2.1	3.4	83.8	34.5	7.3	65.5
#16	1.9	2.8	67.8	28.0	6.5	72.0
#30	1.8	2.7	47.6	20.0	8.0	80.0
#50	1.8	2.6	20.2	9.3	10.7	90.7
#100	1.7	2.4	2.9	2.4	6.9	97.6
LBW	1.4	2.0	0.7	1.4	1.1	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:** **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: 7/12/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 7/13/2021 through 7/19/2021

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%



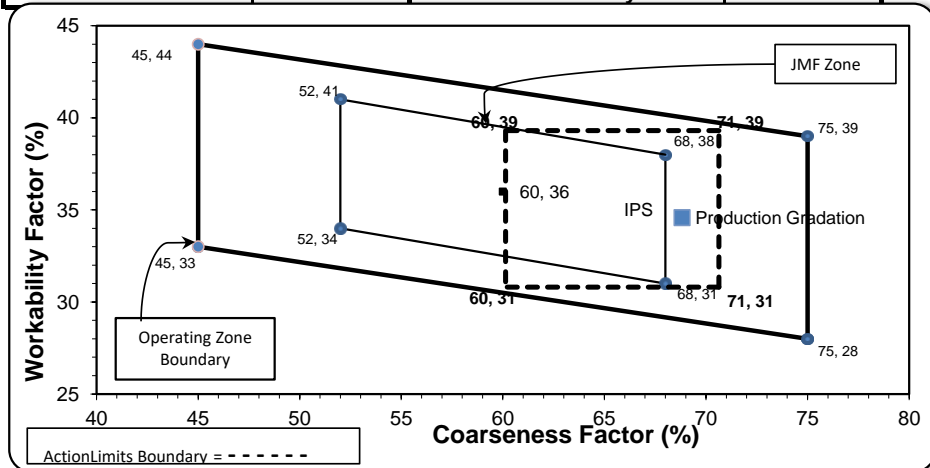
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.8	100.0	100.0	99.6	0.4	0.4
1"	50.3	100.0	100.0	82.7	16.9	17.3
3/4"	13.6	98.6	100.0	69.5	13.1	30.5
1/2"	3.8	79.1	100.0	61.4	8.2	38.6
3/8"	2.8	54.4	100.0	55.0	6.4	45.0
#4	2.1	13.6	97.3	43.7	11.3	56.3
#8	1.9	4.2	80.8	34.6	9.1	65.4
#16	1.8	2.7	66.3	28.3	6.3	71.7
#30	1.8	2.3	50.6	21.8	6.5	78.2
#50	1.7	2.1	25.8	11.6	10.2	88.4
#100	1.6	1.9	7.8	4.2	7.4	95.8
LBW	1.4	1.8	1.5	1.5	2.7	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: **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: 7/12/21 Concrete Grade: **P1M**
 Dates Test Represents: 7/13/2021 through 7/19/2021

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%



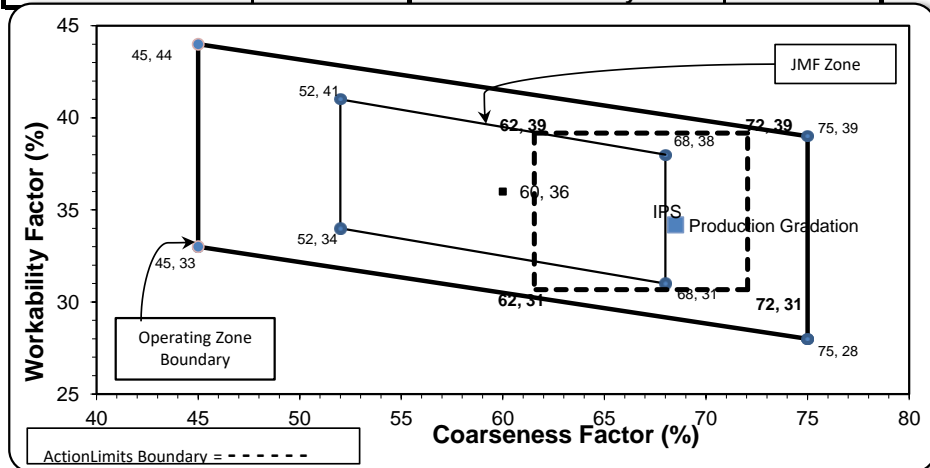
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	52.4	100.0	100.0	88.4	11.6	11.6
3/4"	11.0	97.6	100.0	77.4	11.0	22.6
1/2"	3.1	66.7	100.0	64.7	12.7	35.3
3/8"	2.5	39.0	100.0	54.9	9.8	45.1
#4	2.2	8.0	96.6	42.7	12.3	57.3
#8	2.1	3.4	79.8	34.2	8.5	65.8
#16	1.9	2.8	63.3	27.2	7.0	72.8
#30	1.8	2.7	47.1	20.6	6.7	79.4
#50	1.8	2.6	24.7	11.4	9.2	88.6
#100	1.7	2.4	5.3	3.4	8.0	96.6
LBW	1.4	2.0	0.7	1.3	2.1	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: **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"	85.0	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: