

Aggregate Optimization Chart

PLANT #: **P-101**

Sample Date: 6/14/21 Concrete Grade: **P1M**
 Dates Test Represents: 6/15/2021 through 6/21/2021

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"	95.7	100.0	100.0	98.5	1.5	1.5
1"	47.8	100.0	100.0	81.8	16.7	18.2
3/4"	15.5	98.4	100.0	70.1	11.7	29.9
1/2"	2.6	78.9	100.0	60.6	9.6	39.4
3/8"	2.2	55.5	100.0	54.3	6.2	45.7
#4	2.1	12.6	99.2	42.8	11.5	57.2
#8	2.0	4.1	82.4	34.0	8.8	66.0
#16	1.9	2.7	66.4	27.3	6.7	72.7
#30	1.8	2.4	50.2	20.9	6.4	79.1
#50	1.8	2.3	25.2	11.1	9.8	88.9
#100	1.7	2.1	6.3	3.6	7.5	96.4
LBW	1.5	2.0	0.8	1.4	2.2	98.6

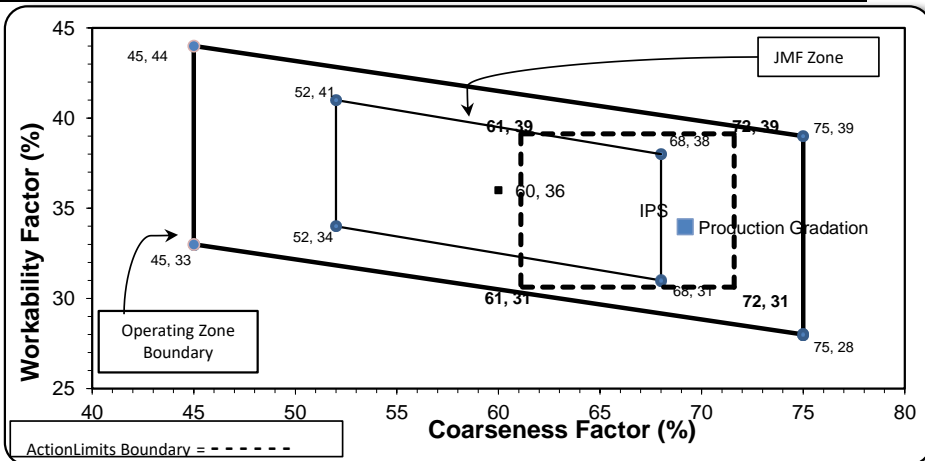
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	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: 6/14/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 6/15/2021 through 6/21/2021

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%



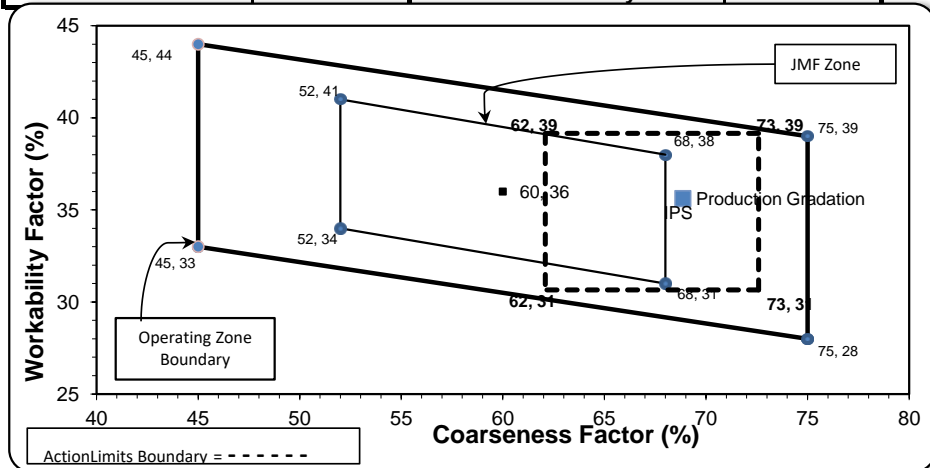
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 Suite 500
 Farmington Hills, MI 48336

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"	64.0	100.0	100.0	83.6	16.4	16.4
3/4"	37.9	100.0	100.0	71.7	11.9	28.3
1/2"	16.3	93.4	100.0	60.8	10.9	39.2
3/8"	10.9	76.4	100.0	55.7	5.2	44.3
#4	5.0	27.3	99.0	44.7	10.9	55.3
#8	3.5	7.8	85.2	35.6	9.1	64.4
#16	2.7	3.7	66.4	27.4	8.3	72.6
#30	2.4	2.4	47.1	19.6	7.8	80.4
#50	2.0	2.0	20.3	9.0	10.6	91.0
#100	1.9	2.0	3.8	2.6	6.4	97.4
LBW	1.7	1.6	0.7	1.3	1.3	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:	69	Workability Factor:	36
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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: 6/14/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 6/15/2021 through 6/21/2021

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	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%



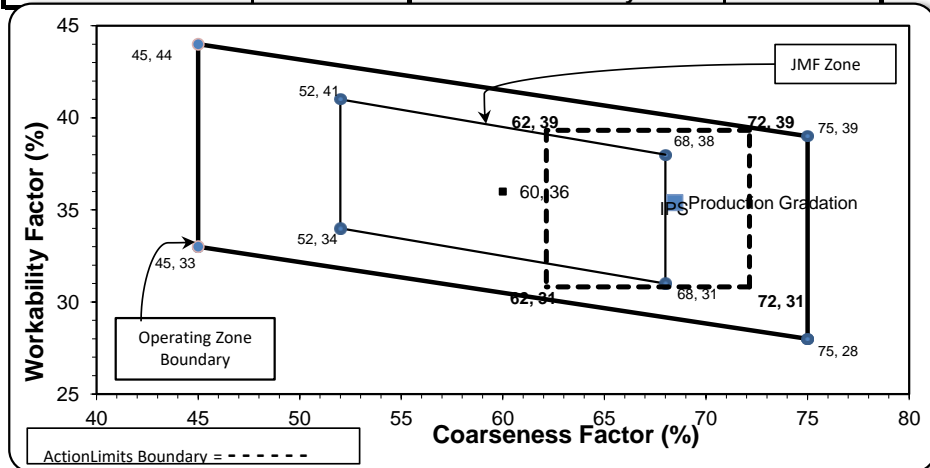
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 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.8	100.0	100.0	98.9	1.1	1.1
1"	43.0	100.0	100.0	81.1	17.9	18.9
3/4"	12.8	98.2	100.0	70.6	10.5	29.4
1/2"	4.0	79.9	100.0	62.9	7.7	37.1
3/8"	2.9	54.1	100.0	55.8	7.1	44.2
#4	2.4	12.2	96.9	43.4	12.3	56.6
#8	2.2	5.4	81.7	35.4	8.0	64.6
#16	2.0	3.6	66.8	28.8	6.6	71.2
#30	2.0	2.9	49.8	21.7	7.1	78.3
#50	1.9	2.6	24.9	11.4	10.2	88.6
#100	1.8	2.2	5.6	3.5	8.0	96.5
LBW	1.5	1.6	0.8	1.2	2.2	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: **68** **Workability Factor:** **35**



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"	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: 6/14/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 6/15/2021 through 6/21/2021

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	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%



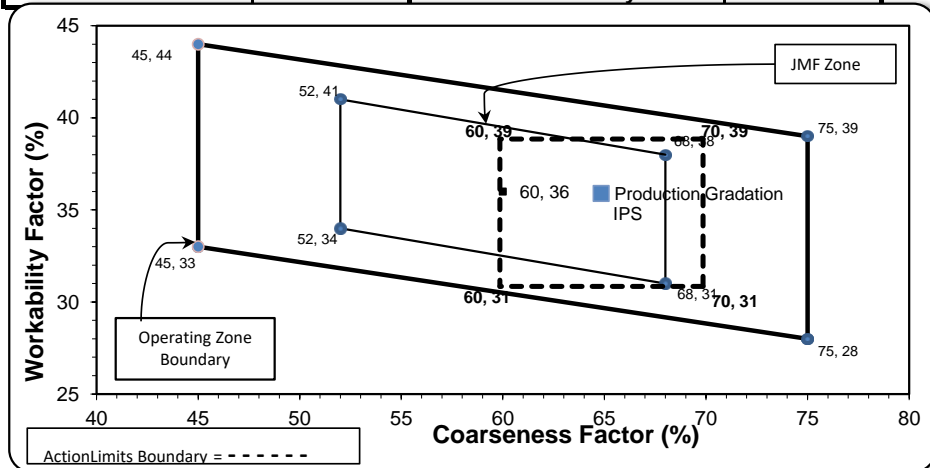
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Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	97.0	100.0	100.0	99.1	0.9	0.9
1"	43.5	100.0	100.0	82.5	16.6	17.5
3/4"	14.3	99.0	100.0	73.2	9.3	26.8
1/2"	2.2	82.6	100.0	64.5	8.7	35.5
3/8"	1.5	63.0	100.0	58.4	6.1	41.6
#4	1.3	17.7	98.1	44.1	14.4	55.9
#8	1.2	7.0	85.5	35.9	8.2	64.1
#16	1.1	3.9	71.0	29.3	6.6	70.7
#30	1.1	3.0	50.8	21.1	8.2	78.9
#50	1.0	2.7	22.4	9.9	11.2	90.1
#100	0.9	2.5	2.4	2.0	7.9	98.0
LBW	0.8	2.3	0.5	1.1	0.8	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: **65** **Workability Factor:** **36**



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: 6/14/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 6/15/2021 through 6/21/2021

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	800	4.89	2.62	26.1
2NS	95-013	Smelter Bay	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



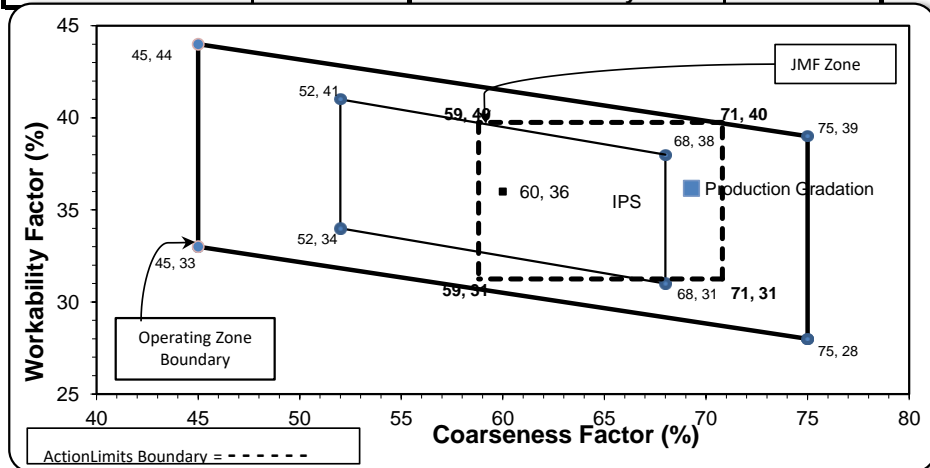
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 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.8	100.0	100.0	98.9	1.1	1.1
1"	43.0	100.0	100.0	81.1	17.9	18.9
3/4"	12.8	98.2	100.0	70.6	10.5	29.4
1/2"	4.0	79.9	100.0	62.9	7.7	37.1
3/8"	2.9	54.1	100.0	55.8	7.1	44.2
#4	2.4	12.2	96.4	43.2	12.6	56.8
#8	2.2	5.4	83.6	36.2	7.1	63.8
#16	2.0	3.6	66.5	28.7	7.5	71.3
#30	2.0	2.9	45.8	20.1	8.6	79.9
#50	1.9	2.6	23.7	11.0	9.1	89.0
#100	1.8	2.2	8.1	4.5	6.5	95.5
LBW	1.5	1.6	1.1	1.4	3.1	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:	69	Workability Factor:	36
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Initial Production Sample (IPS)

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: 6/14/21 Concrete Grade: **P1M**
 Dates Test Represents: 6/15/2021 through 6/21/2021

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

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



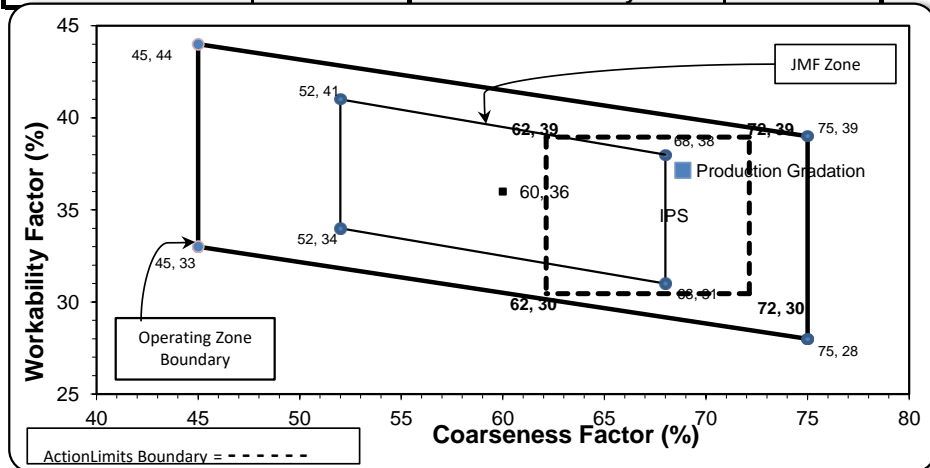
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	64.0	100.0	100.0	84.2	15.8	15.8
3/4"	37.9	100.0	100.0	72.7	11.5	27.3
1/2"	16.3	93.4	100.0	62.1	10.6	37.9
3/8"	10.9	76.4	100.0	56.7	5.4	43.3
#4	5.0	27.3	97.4	44.5	12.2	55.5
#8	3.5	7.8	89.0	37.1	7.3	62.9
#16	2.7	3.7	69.6	28.6	8.5	71.4
#30	2.4	2.4	49.6	20.6	8.1	79.4
#50	2.0	2.0	18.1	8.2	12.4	91.8
#100	1.9	2.0	4.0	2.7	5.5	97.3
LBW	1.7	1.6	0.8	1.3	1.4	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: **69** **Workability Factor:** **37**



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: 6/14/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 6/15/2021 through 6/21/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1050	6.42	2.62	34.2
IA	71-47	Presque Isle	820	5.02	2.62	26.7
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



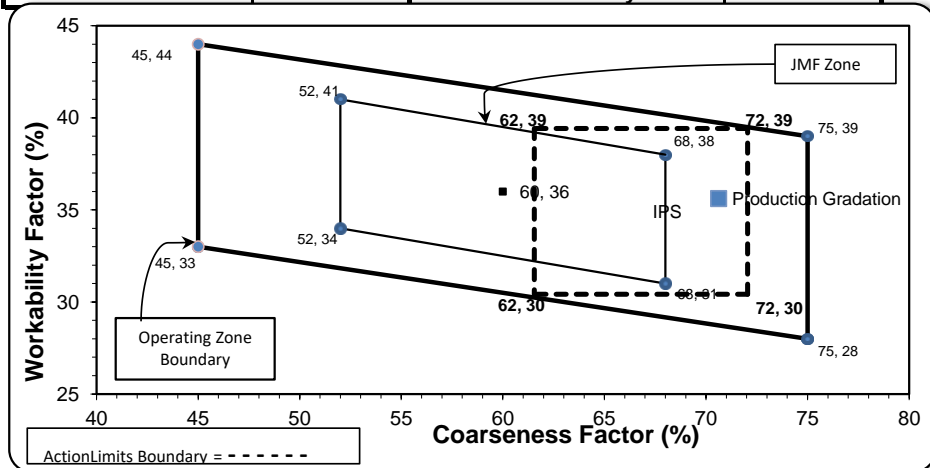
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.8	100.0	100.0	98.9	1.1	1.1
1"	43.0	100.0	100.0	80.5	18.4	19.5
3/4"	12.8	98.2	100.0	69.7	10.8	30.3
1/2"	4.0	79.9	100.0	61.8	7.9	38.2
3/8"	2.9	54.1	100.0	54.5	7.3	45.5
#4	2.4	12.2	98.1	42.4	12.1	57.6
#8	2.2	5.4	85.5	35.6	6.8	64.4
#16	2.0	3.6	71.0	29.4	6.2	70.6
#30	2.0	2.9	50.8	21.3	8.1	78.7
#50	1.9	2.6	22.4	10.1	11.2	89.9
#100	1.8	2.2	2.4	2.1	8.0	97.9
LBW	1.5	1.6	0.5	1.1	1.0	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: **71** **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"	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: 6/14/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 6/15/2021 through 6/21/2021

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%



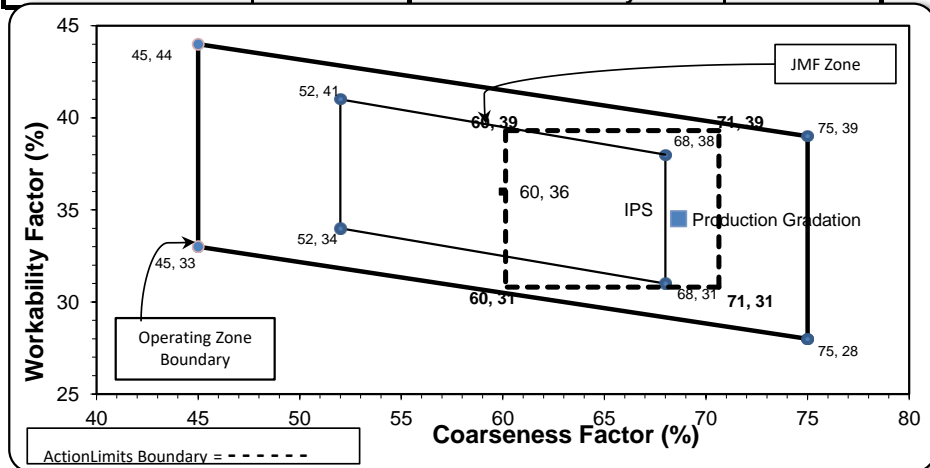
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.7	100.0	100.0	98.5	1.5	1.5
1"	47.8	100.0	100.0	81.8	16.7	18.2
3/4"	15.5	98.4	100.0	70.2	11.6	29.8
1/2"	2.6	78.9	100.0	60.9	9.3	39.1
3/8"	2.2	55.5	100.0	55.0	5.9	45.0
#4	2.1	12.6	97.5	43.5	11.5	56.5
#8	2.0	4.1	80.6	34.5	9.0	65.5
#16	1.9	2.7	64.0	27.4	7.1	72.6
#30	1.8	2.4	47.7	20.6	6.7	79.4
#50	1.8	2.3	24.3	11.1	9.6	88.9
#100	1.7	2.1	7.4	4.1	7.0	95.9
LBW	1.5	2.0	1.2	1.5	2.6	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
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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: 6/14/21 Concrete Grade: **P1M**
 Dates Test Represents: 6/15/2021 through 6/21/2021

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%



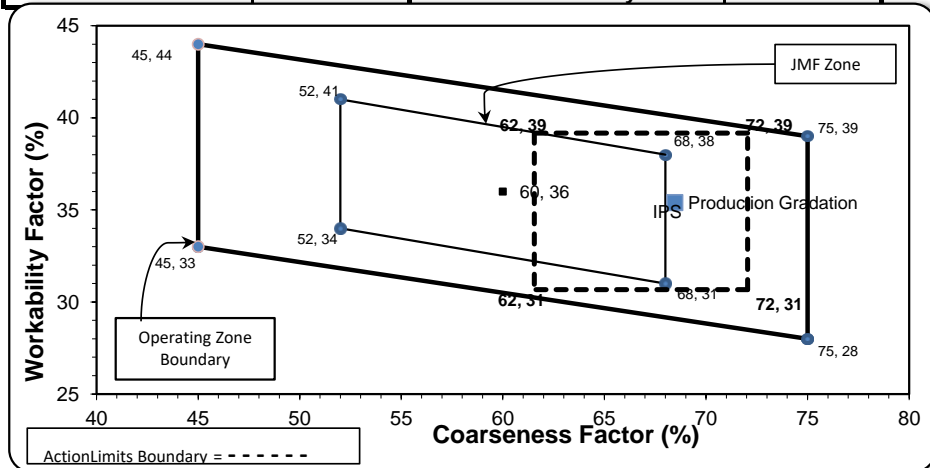
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.8	100.0	100.0	98.9	1.1	1.1
1"	43.0	100.0	100.0	81.1	17.9	18.9
3/4"	12.8	98.2	100.0	70.6	10.5	29.4
1/2"	4.0	79.9	100.0	62.9	7.7	37.1
3/8"	2.9	54.1	100.0	55.8	7.1	44.2
#4	2.4	12.2	96.9	43.4	12.3	56.6
#8	2.2	5.4	81.7	35.4	8.0	64.6
#16	2.0	3.6	66.8	28.8	6.6	71.2
#30	2.0	2.9	49.8	21.7	7.1	78.3
#50	1.9	2.6	24.9	11.4	10.2	88.6
#100	1.8	2.2	5.6	3.5	8.0	96.5
LBW	1.5	1.6	0.8	1.2	2.2	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: **68** **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"	72.3	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: