

Aggregate Optimization Chart

PLANT #: **P-101**

Sample Date: 5/9/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 5/10/2022 through 5/16/2022

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"	98.5	100.0	100.0	99.5	0.5	0.5
1"	49.1	100.0	100.0	82.3	17.2	17.7
3/4"	13.1	98.3	100.0	69.3	13.0	30.7
1/2"	3.3	81.1	100.0	61.4	7.9	38.6
3/8"	2.4	59.6	100.0	55.5	5.9	44.5
#4	1.8	9.2	98.5	41.5	13.9	58.5
#8	1.7	2.7	83.3	33.9	7.7	66.1
#16	1.7	2.2	68.3	27.9	6.0	72.1
#30	1.6	2.0	53.3	21.9	6.0	78.1
#50	1.6	1.9	29.2	12.5	9.4	87.5
#100	1.5	1.8	7.3	3.8	8.6	96.2
LBW	1.3	1.6	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

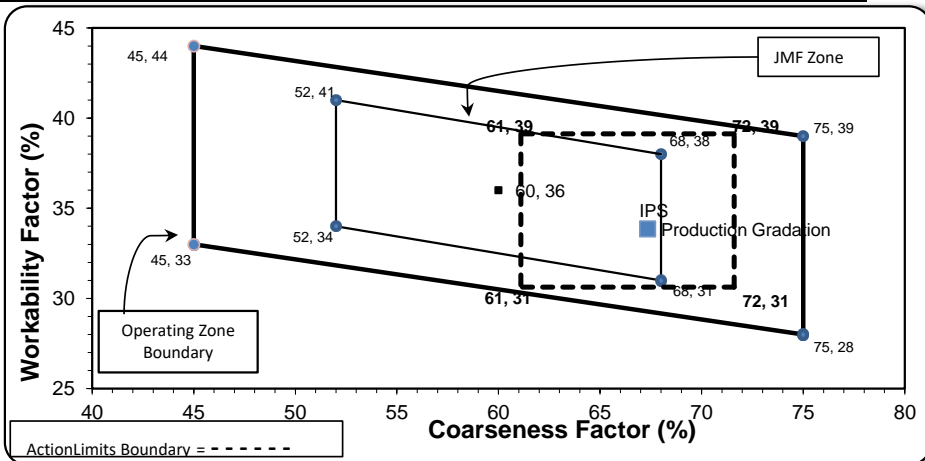
Coarseness Factor: **67** **Workability Factor:** **34**

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: 5/9/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 5/10/2022 through 5/16/2022

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%



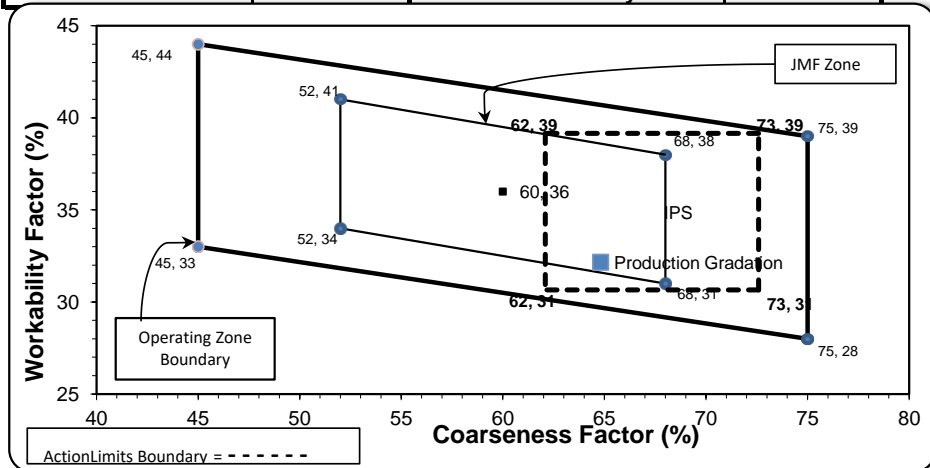
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 Suite 500
 Farmington Hills, MI 48336

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"	65.2	100.0	100.0	84.7	15.3	15.3
3/4"	36.4	100.0	100.0	72.1	12.6	27.9
1/2"	13.9	91.2	100.0	60.6	11.4	39.4
3/8"	8.0	79.7	100.0	56.0	4.6	44.0
#4	2.5	21.3	96.6	42.0	14.0	58.0
#8	1.6	4.3	79.8	32.2	9.9	67.8
#16	1.3	2.0	61.5	24.6	7.6	75.4
#30	1.2	1.6	43.6	17.6	7.0	82.4
#50	1.0	1.3	20.9	8.7	8.9	91.3
#100	1.0	1.1	6.5	3.1	5.6	96.9
LBW	0.9	0.7	0.8	0.8	2.3	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: **65** **Workability Factor:** **32**



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: 5/9/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 5/10/2022 through 5/16/2022

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%



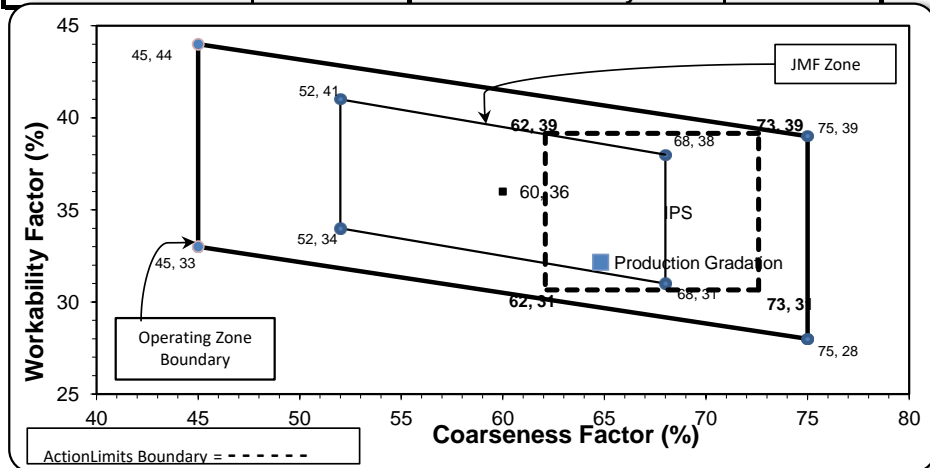
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 Suite 500
 Farmington Hills, MI 48336

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"	65.2	100.0	100.0	84.7	15.3	15.3
3/4"	36.4	100.0	100.0	72.1	12.6	27.9
1/2"	13.9	91.2	100.0	60.6	11.4	39.4
3/8"	8.0	79.7	100.0	56.0	4.6	44.0
#4	2.5	21.3	96.6	42.0	14.0	58.0
#8	1.6	4.3	79.8	32.2	9.9	67.8
#16	1.3	2.0	61.5	24.6	7.6	75.4
#30	1.2	1.6	43.6	17.6	7.0	82.4
#50	1.0	1.3	20.9	8.7	8.9	91.3
#100	1.0	1.1	6.5	3.1	5.6	96.9
LBW	0.9	0.7	0.8	0.8	2.3	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:	65	Workability Factor:	32
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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:
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Aggregate Optimization Chart

PLANT #: **P-12**

Sample Date: 5/9/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 5/10/2022 through 5/16/2022

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1170	7.16	2.62	38.1
IA	71-47	Presque Isle	650	3.98	2.62	21.2
2NS	63-115	Ray Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



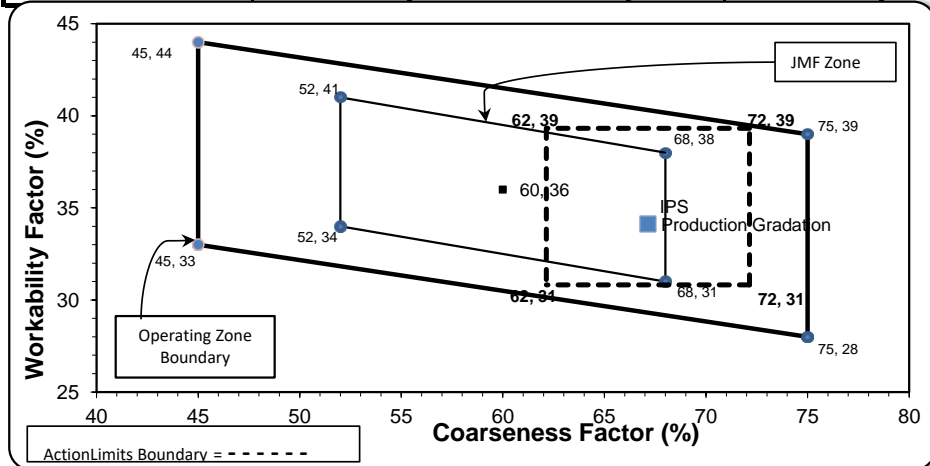
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Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	67.2	100.0	100.0	87.5	12.5	12.5
3/4"	34.0	97.9	100.0	74.4	13.1	25.6
1/2"	11.4	80.3	100.0	62.1	12.3	37.9
3/8"	6.5	59.4	100.0	55.8	6.3	44.2
#4	3.7	15.5	96.2	43.9	11.9	56.1
#8	3.0	4.8	78.5	34.1	9.7	65.9
#16	2.6	2.9	62.5	27.1	7.1	72.9
#30	2.4	2.4	46.8	20.5	6.6	79.5
#50	2.2	2.1	24.2	11.1	9.3	88.9
#100	2.0	1.8	4.3	2.9	8.2	97.1
LBW	1.2	0.5	0.8	0.9	2.0	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: **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

Approved By:

Aggregate Optimization Chart

PLANT #: **P-32**

Sample Date: 5/9/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 5/10/2022 through 5/16/2022

Contractor: _____

MDOT No.: _____

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

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



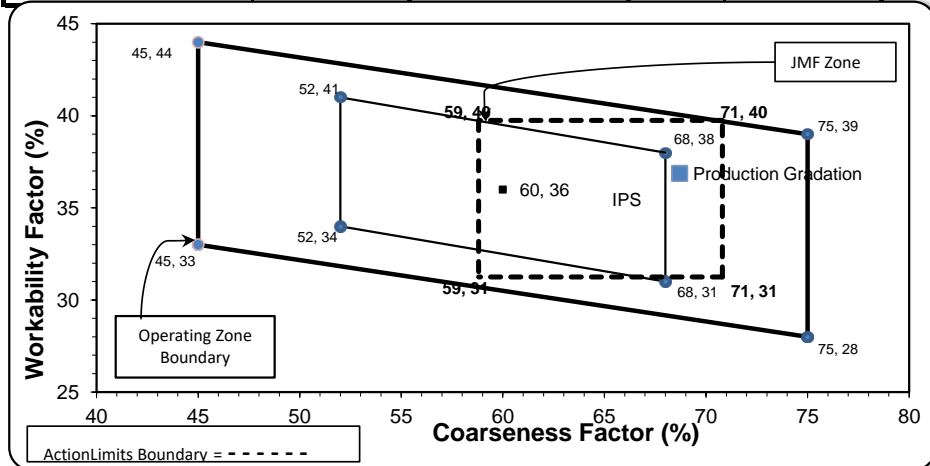
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 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	67.2	100.0	100.0	88.0	12.0	12.0
3/4"	34.0	97.9	100.0	75.4	12.6	24.6
1/2"	11.4	80.3	100.0	63.2	12.3	36.8
3/8"	6.5	59.4	100.0	56.6	6.6	43.4
#4	3.7	15.5	97.2	44.5	12.2	55.5
#8	3.0	4.8	85.2	36.9	7.6	63.1
#16	2.6	2.9	70.8	30.4	6.4	69.6
#30	2.4	2.4	51.8	22.5	7.9	77.5
#50	2.2	2.1	25.3	11.6	10.9	88.4
#100	2.0	1.8	7.4	4.2	7.4	95.8
LBW	1.2	0.5	1.7	1.2	2.9	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: **69** **Workability Factor:** **37**



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: 5/9/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 5/10/2022 through 5/16/2022

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%



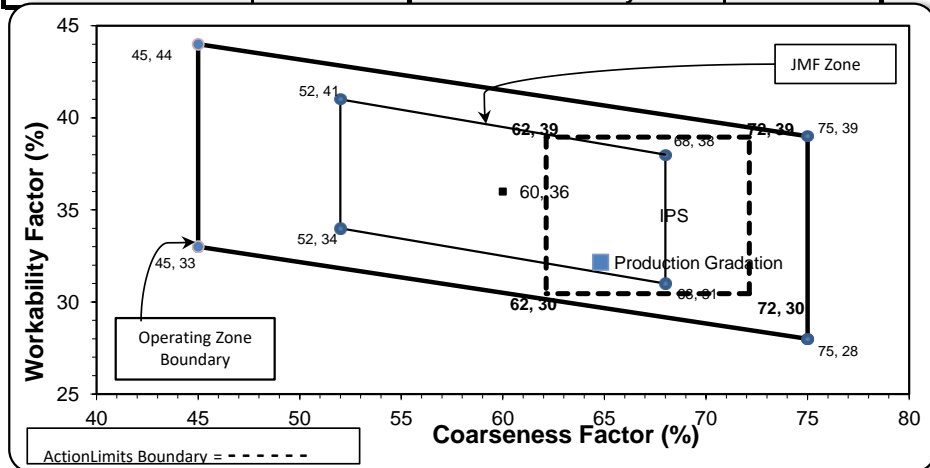
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 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	65.2	100.0	100.0	84.7	15.3	15.3
3/4"	36.4	100.0	100.0	72.1	12.6	27.9
1/2"	13.9	91.2	100.0	60.6	11.4	39.4
3/8"	8.0	79.7	100.0	56.0	4.6	44.0
#4	2.5	21.3	96.6	42.0	14.0	58.0
#8	1.6	4.3	79.8	32.2	9.9	67.8
#16	1.3	2.0	61.5	24.6	7.6	75.4
#30	1.2	1.6	43.6	17.6	7.0	82.4
#50	1.0	1.3	20.9	8.7	8.9	91.3
#100	1.0	1.1	6.5	3.1	5.6	96.9
LBW	0.9	0.7	0.8	0.8	2.3	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:	65	Workability Factor:	32
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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: 5/9/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 5/10/2022 through 5/16/2022

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1170	7.16	2.62	38.1
IA	71-47	Presque Isle	700	4.28	2.62	22.8
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



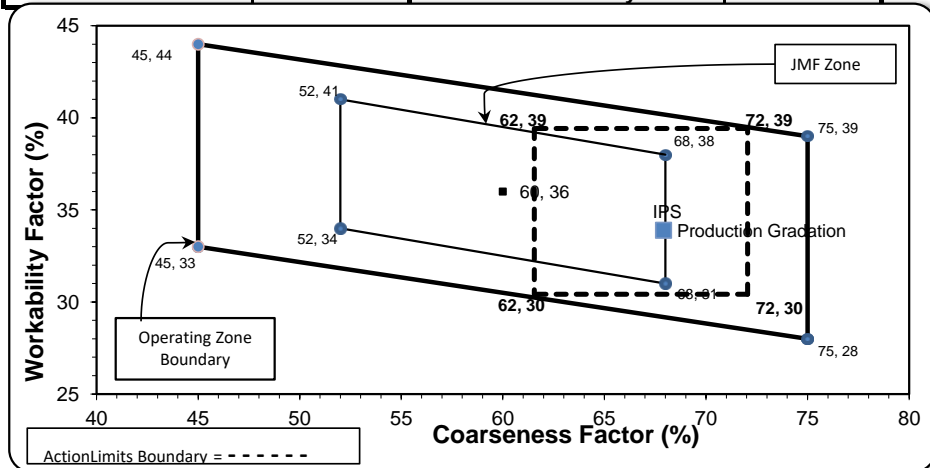
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	67.2	100.0	100.0	87.5	12.5	12.5
3/4"	34.0	97.9	100.0	74.4	13.1	25.6
1/2"	11.4	80.3	100.0	61.7	12.6	38.3
3/8"	6.5	59.4	100.0	55.1	6.6	44.9
#4	3.7	15.5	96.3	42.6	12.5	57.4
#8	3.0	4.8	81.0	33.9	8.7	66.1
#16	2.6	2.9	65.3	27.2	6.7	72.8
#30	2.4	2.4	46.6	19.7	7.5	80.3
#50	2.2	2.1	20.9	9.5	10.2	90.5
#100	2.0	1.8	3.0	2.3	7.1	97.7
LBW	1.2	0.5	0.6	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: **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"	72.1	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: 5/9/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 5/10/2022 through 5/16/2022

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%



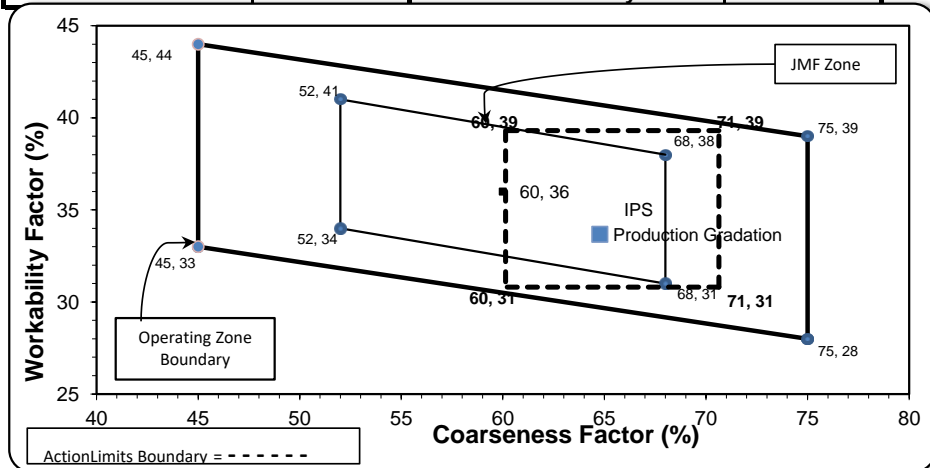
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.5	100.0	100.0	99.5	0.5	0.5
1"	49.1	100.0	100.0	83.1	16.4	16.9
3/4"	13.1	98.3	100.0	70.7	12.4	29.3
1/2"	3.3	81.1	100.0	62.9	7.7	37.1
3/8"	2.4	59.6	100.0	57.0	5.9	43.0
#4	1.8	9.2	96.5	42.3	14.8	57.7
#8	1.7	2.7	79.6	33.7	8.6	66.3
#16	1.7	2.2	63.2	26.9	6.8	73.1
#30	1.6	2.0	47.0	20.2	6.7	79.8
#50	1.6	1.9	26.4	11.8	8.4	88.2
#100	1.5	1.8	9.6	4.9	6.9	95.1
LBW	1.3	1.6	1.0	1.3	3.6	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: **65** **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: 5/9/22

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 5/10/2022 through 5/16/2022

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1170	7.16	2.62	38.1
IA	71-47	Presque Isle	650	3.98	2.62	21.2
2NS	63-115	Ray Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



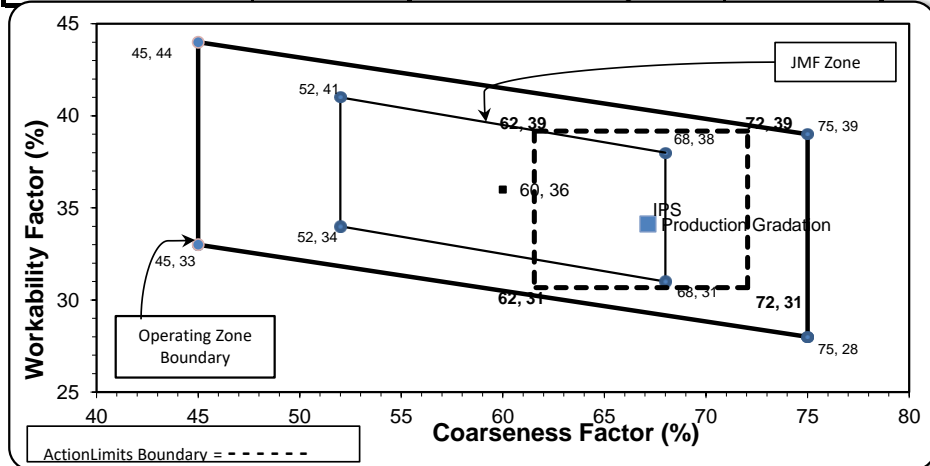
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	67.2	100.0	100.0	87.5	12.5	12.5
3/4"	34.0	97.9	100.0	74.4	13.1	25.6
1/2"	11.4	80.3	100.0	62.1	12.3	37.9
3/8"	6.5	59.4	100.0	55.8	6.3	44.2
#4	3.7	15.5	96.2	43.9	11.9	56.1
#8	3.0	4.8	78.5	34.1	9.7	65.9
#16	2.6	2.9	62.5	27.1	7.1	72.9
#30	2.4	2.4	46.8	20.5	6.6	79.5
#50	2.2	2.1	24.2	11.1	9.3	88.9
#100	2.0	1.8	4.3	2.9	8.2	97.1
LBW	1.2	0.5	0.8	0.9	2.0	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: **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"	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: