

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-102**

Sample Date: 9/22/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 9/23/2025 through 9/29/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1550	9.23	2.69	52.5
26A	58-003	Stoneco	250	1.49	2.69	8.5
2NS	63-114	Highland	1150	6.95	2.65	39.0
Total Wt			2950	17.68		100.0

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

Sieve	6AA	26A	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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	82.7	100.0	100.0	90.9	9.1	9.1
1/2"	43.1	100.0	100.0	70.1	20.8	29.9
3/8"	24.2	86.4	100.0	59.0	11.1	41.0
#4	3.7	9.0	99.1	41.3	17.7	58.7
#8	1.6	2.0	85.6	34.4	7.0	65.6
#16	1.5	1.4	67.3	27.1	7.2	72.9
#30	1.4	1.3	48.5	19.8	7.4	80.2
#50	1.3	1.2	23.9	10.1	9.7	89.9
#100	1.3	1.2	4.1	2.4	7.7	97.6
LBW	1.1	1.0	0.4	0.8	1.6	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 4% for the 3/4" sieve when

a 1.5" max. size (nom. Max. 1.0") aggregate is used.



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

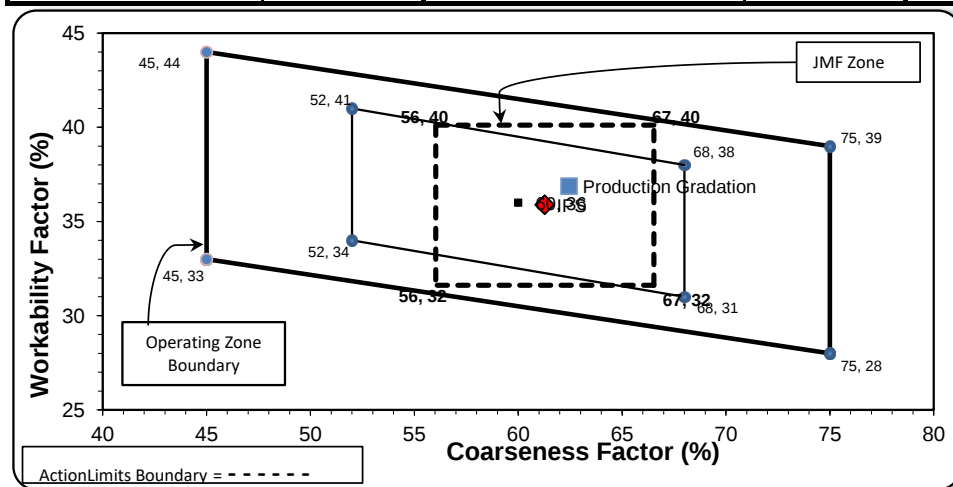
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	34	36.9
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Coarseness Factor:	61
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Workability Factor:	36
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Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
#8	35.9	8.5	64.1
#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3

PREPARED BY:
SM, LLC Technical Service

Approved By:

[Signature]

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Sample Date: 9/22/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 9/23/2025 through 9/29/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1550	9.23	2.69	52.5
26A	58-003	Stoneco	250	1.49	2.69	8.5
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Total Wt			2950	17.68		100.0

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Sieve	6AA	26A	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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	82.7	100.0	100.0	90.9	9.1	9.1
1/2"	43.1	100.0	100.0	70.1	20.8	29.9
3/8"	24.2	86.4	100.0	59.0	11.1	41.0
#4	3.7	9.0	99.1	41.3	17.7	58.7
#8	1.6	2.0	85.6	34.4	7.0	65.6
#16	1.5	1.4	67.3	27.1	7.2	72.9
#30	1.4	1.3	48.5	19.8	7.4	80.2
#50	1.3	1.2	23.9	10.1	9.7	89.9
#100	1.3	1.2	4.1	2.4	7.7	97.6
LBW	1.1	1.0	0.4	0.8	1.6	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 4% for the 3/4" sieve when

a 1.5" max. size (nom. Max. 1.0") aggregate is used.



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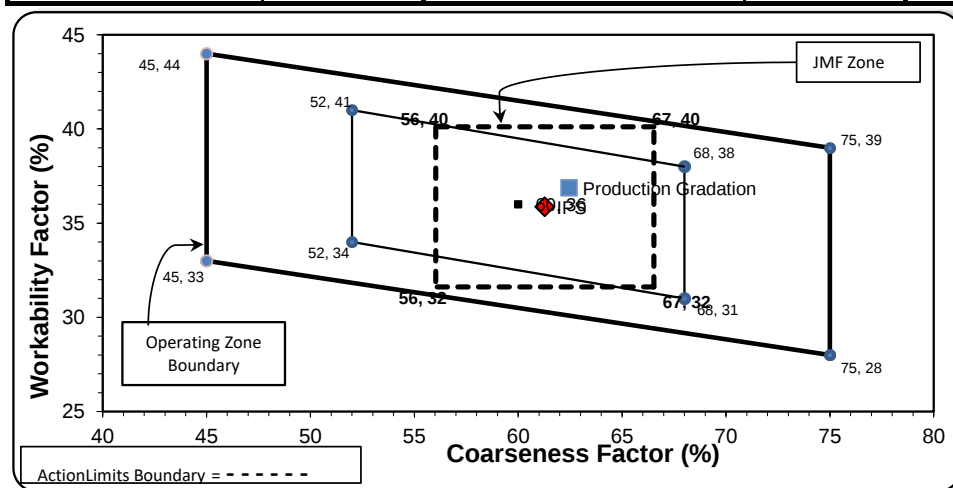
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	34	36.9
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Coarseness Factor:	61
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Workability Factor:	36
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Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
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#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3

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Aggregate Optimization Chart

Production Gradation Report

PLANT #: **p11**

Sample Date: **9/22/25**

Dates Test Represents: **9/23/2025** through **9/29/2025**

Concrete Grade: **DM, 4500HP**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1355	8.29	2.62	46.6
26A	71-47	Presque Isle	400	2.45	2.62	13.8
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt			2905	17.69		100.0

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

Sieve	6AA	26A	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"	98.0	100.0	100.0	99.1	0.9	0.9
3/4"	82.5	100.0	100.0	91.8	7.2	8.2
1/2"	37.7	99.2	100.0	70.8	21.0	29.2
3/8"	18.0	84.0	100.0	59.5	11.3	40.5
#4	3.1	17.0	97.5	42.4	17.2	57.6
#8	1.9	6.1	82.1	34.2	8.2	65.8
#16	1.6	3.5	62.9	26.1	8.1	73.9
#30	1.5	2.8	45.2	19.0	7.1	81.0
#50	1.4	2.5	22.6	9.9	9.0	90.1
#100	1.3	2.3	5.1	2.9	7.0	97.1
LBW	1.1	2.1	0.6	1.0	1.9	99.0

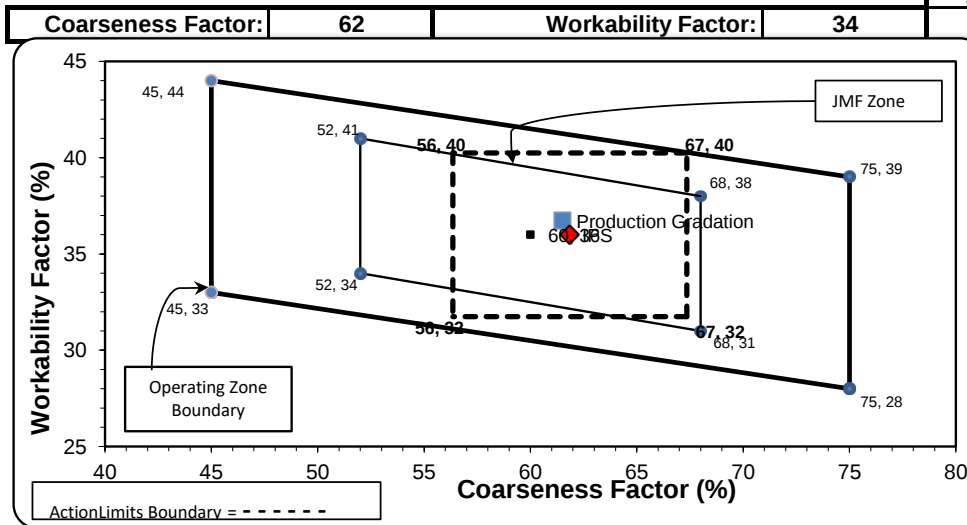
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.



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Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)



Coarseness Factor: 62		Workability Factor: 36	
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	100.0	0.0	0.0
3/4"	95.0	5.0	5.0
1/2"	72.3	22.8	27.7
3/8"	60.4	11.8	39.6
#4	42.6	17.8	57.4
#8	36.0	6.6	64.0
#16	29.5	6.5	70.5
#30	20.3	9.2	79.7
#50	9.5	10.8	90.5
#100	3.4	6.1	96.6
LBW	1.3	2.1	98.7

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Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-02**

Sample Date: 9/22/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 9/23/2025 through 9/29/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1355	8.29	2.62	46.6
26A	71-47	Presque Isle	400	2.45	2.62	13.8
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt			2905	17.69		100.0

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

Sieve	6AA	26A	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"	98.0	100.0	100.0	99.1	0.9	0.9
3/4"	82.5	100.0	100.0	91.8	7.2	8.2
1/2"	37.7	99.2	100.0	70.8	21.0	29.2
3/8"	18.0	84.0	100.0	59.5	11.3	40.5
#4	3.1	17.0	97.5	42.4	17.2	57.6
#8	1.9	6.1	82.1	34.2	8.2	65.8
#16	1.6	3.5	62.9	26.1	8.1	73.9
#30	1.5	2.8	45.2	19.0	7.1	81.0
#50	1.4	2.5	22.6	9.9	9.0	90.1
#100	1.3	2.3	5.1	2.9	7.0	97.1
LBW	1.1	2.1	0.6	1.0	1.9	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 4% for the 3/4" sieve when

a 1.5" max. size (nom. Max. 1.0") aggregate is used.



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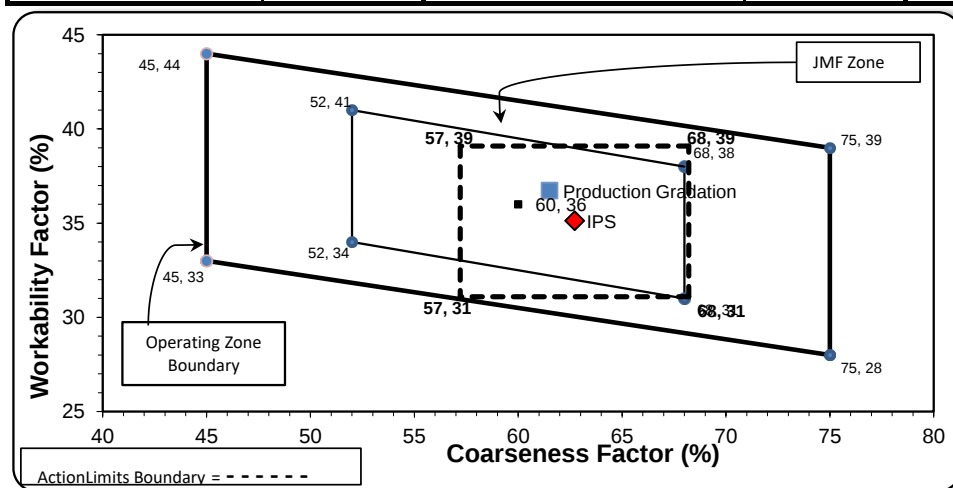
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	34	36.7
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Coarseness Factor:	63
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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"	100.0	0.0	0.0
1"	100.0	0.0	0.0
3/4"	95.1	4.9	4.9
1/2"	74.6	20.5	25.4
3/8"	59.3	15.3	40.7
#4	42.1	17.2	57.9
#8	35.1	7.1	64.9
#16	29.2	5.9	70.8
#30	21.9	7.3	78.1
#50	9.6	12.4	90.4
#100	2.4	7.2	97.6
LBW	0.9	1.5	99.1

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[Signature]