

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-102**

Sample Date: 11/3/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 11/4/2025 through 11/10/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1600	9.53	2.69	54.2
26A	58-003	Stoneco	200	1.19	2.69	6.8
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"	99.5	100.0	100.0	99.7	0.3	0.3
3/4"	85.2	100.0	100.0	92.0	7.8	8.0
1/2"	47.8	99.4	100.0	71.6	20.3	28.4
3/8"	28.4	84.4	100.0	60.1	11.5	39.9
#4	3.9	8.8	98.8	41.2	18.9	58.8
#8	1.6	2.1	84.5	34.0	7.3	66.0
#16	1.5	1.7	67.0	27.0	6.9	73.0
#30	1.3	1.4	46.2	18.8	8.2	81.2
#50	1.2	1.3	22.2	9.4	9.4	90.6
#100	1.0	1.2	4.4	2.3	7.1	97.7
LBW	0.9	1.0	0.4	0.7	1.6	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 4% for the 3/4" sieve when

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

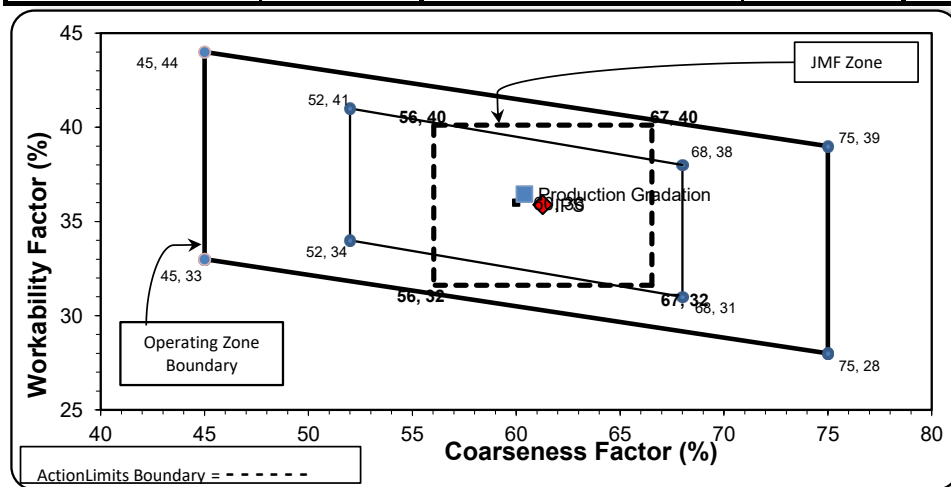
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	60	Workability Factor:	34	36.5
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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]



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

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Sample Date: 11/3/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 11/4/2025 through 11/10/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1600	9.53	2.69	54.2
26A	58-003	Stoneco	200	1.19	2.69	6.8
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"	99.5	100.0	100.0	99.7	0.3	0.3
3/4"	85.2	100.0	100.0	92.0	7.8	8.0
1/2"	47.8	99.4	100.0	71.6	20.3	28.4
3/8"	28.4	84.4	100.0	60.1	11.5	39.9
#4	3.9	8.8	98.8	41.2	18.9	58.8
#8	1.6	2.1	84.5	34.0	7.3	66.0
#16	1.5	1.7	67.0	27.0	6.9	73.0
#30	1.3	1.4	46.2	18.8	8.2	81.2
#50	1.2	1.3	22.2	9.4	9.4	90.6
#100	1.0	1.2	4.4	2.3	7.1	97.7
LBW	0.9	1.0	0.4	0.7	1.6	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 4% for the 3/4" sieve when

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



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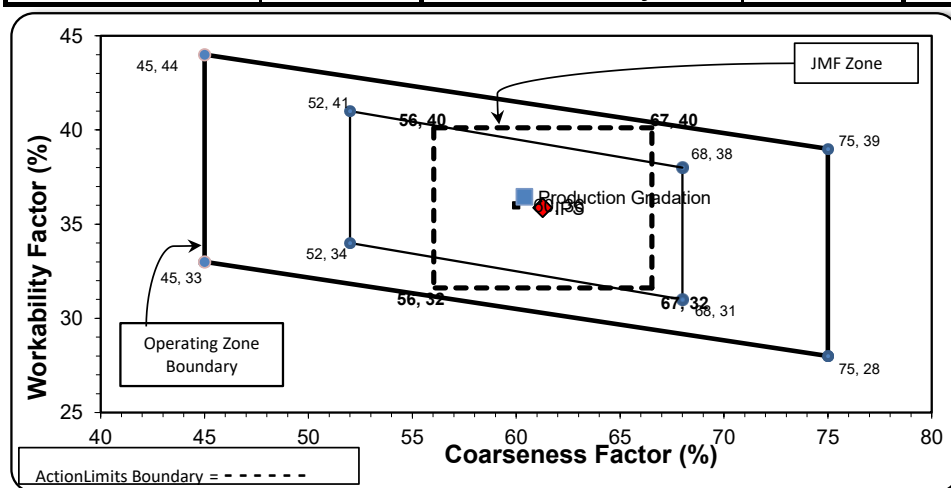
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	60	Workability Factor:	34	36.5
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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:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **p11**

Sample Date: 11/3/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 11/4/2025 through 11/10/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1455	8.90	2.62	50.1
26A	71-47	Presque Isle	300	1.83	2.62	10.3
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"	96.5	100.0	100.0	98.2	1.8	1.8
3/4"	77.8	100.0	100.0	88.9	9.4	11.1
1/2"	36.4	98.2	100.0	68.0	20.9	32.0
3/8"	19.2	86.6	100.0	58.1	9.8	41.9
#4	3.1	17.6	97.6	42.0	16.1	58.0
#8	1.9	4.4	84.9	35.0	7.0	65.0
#16	1.6	2.2	66.8	27.5	7.5	72.5
#30	1.6	1.8	48.4	20.1	7.3	79.9
#50	1.4	1.8	23.0	10.0	10.2	90.0
#100	1.4	1.6	4.9	2.8	7.2	97.2
LBW	1.2	1.5	1.0	1.2	1.7	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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

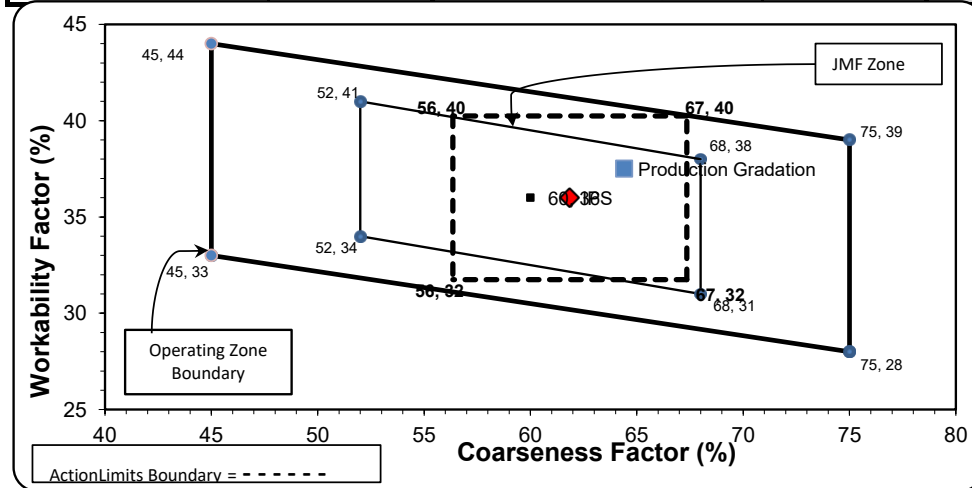


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Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	64	Workability Factor:	35	37.5
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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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 SM, LLC Technical Service

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Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-02**

Sample Date: 11/3/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 11/4/2025 through 11/10/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1455	8.90	2.62	50.1
26A	71-47	Presque Isle	300	1.83	2.62	10.3
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"	96.5	100.0	100.0	98.2	1.8	1.8
3/4"	77.8	100.0	100.0	88.9	9.4	11.1
1/2"	36.4	98.2	100.0	68.0	20.9	32.0
3/8"	19.2	86.6	100.0	58.1	9.8	41.9
#4	3.1	17.6	97.6	42.0	16.1	58.0
#8	1.9	4.4	84.9	35.0	7.0	65.0
#16	1.6	2.2	66.8	27.5	7.5	72.5
#30	1.6	1.8	48.4	20.1	7.3	79.9
#50	1.4	1.8	23.0	10.0	10.2	90.0
#100	1.4	1.6	4.9	2.8	7.2	97.2
LBW	1.2	1.5	1.0	1.2	1.7	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 4% for the 3/4" sieve when

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



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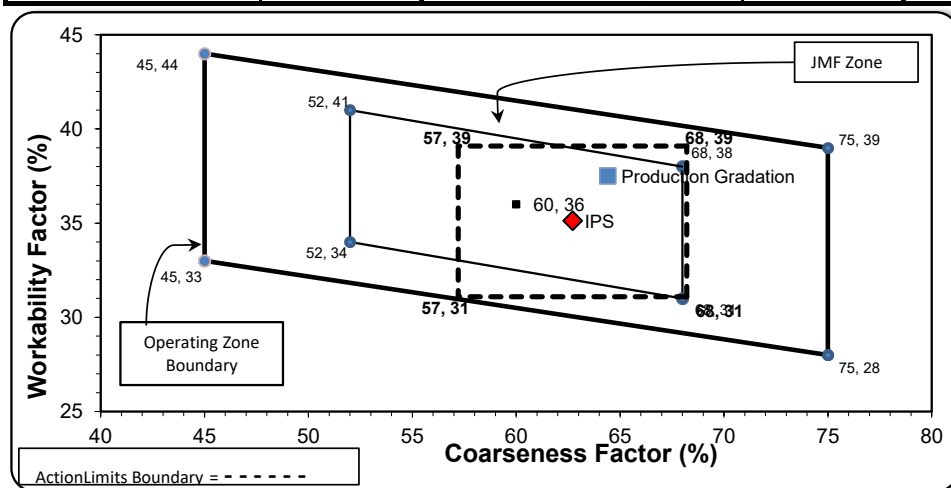
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	64	Workability Factor:	35	37.5
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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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