

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Sample Date: 6/16/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 6/17/2025 through 6/23/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1530	9.11	2.69	51.9
26A	58-003	Stoneco	270	1.61	2.69	9.2
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"	98.8	100.0	100.0	99.4	0.6	0.6
3/4"	80.3	100.0	100.0	89.8	9.6	10.2
1/2"	43.6	98.8	100.0	70.6	19.1	29.4
3/8"	23.7	84.0	100.0	59.0	11.7	41.0
#4	4.7	14.5	99.1	42.4	16.6	57.6
#8	2.1	3.6	84.9	34.5	7.9	65.5
#16	1.4	1.7	67.3	27.1	7.4	72.9
#30	1.2	1.2	48.0	19.4	7.7	80.6
#50	1.2	1.1	21.3	9.0	10.4	91.0
#100	1.1	1.1	3.5	2.0	7.0	98.0
LBW	1.2	0.9	0.5	0.9	1.1	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 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

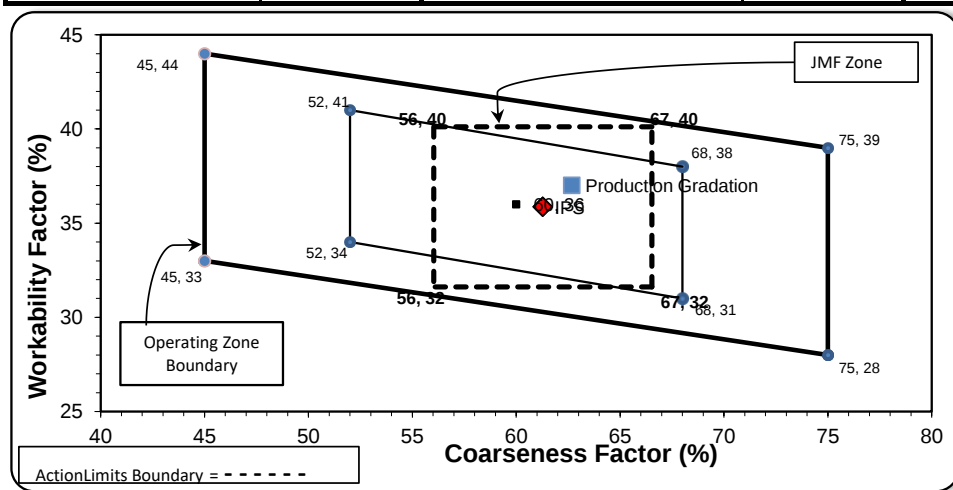
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	63	Workability Factor:	35	37.0
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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 #: **p11**

Sample Date: **6/16/25**

Dates Test Represents: **6/17/2025** through **6/23/2025**

Concrete Grade: **DM, 4500HP**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1450	8.87	2.62	49.9
26A	71-47	Presque Isle	305	1.87	2.62	10.5
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"	99.0	100.0	100.0	99.5	0.5	0.5
3/4"	78.7	100.0	100.0	89.4	10.1	10.6
1/2"	40.2	96.2	100.0	69.8	19.6	30.2
3/8"	19.5	84.2	100.0	58.2	11.6	41.8
#4	2.6	19.2	95.6	41.2	17.0	58.8
#8	1.7	7.2	79.0	32.9	8.3	67.1
#16	1.6	4.2	62.5	26.0	6.9	74.0
#30	1.6	3.4	46.9	19.7	6.3	80.3
#50	1.5	3.1	25.8	11.3	8.4	88.7
#100	1.5	2.9	7.1	3.9	7.4	96.1
LBW	1.2	2.7	1.1	1.3	2.5	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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

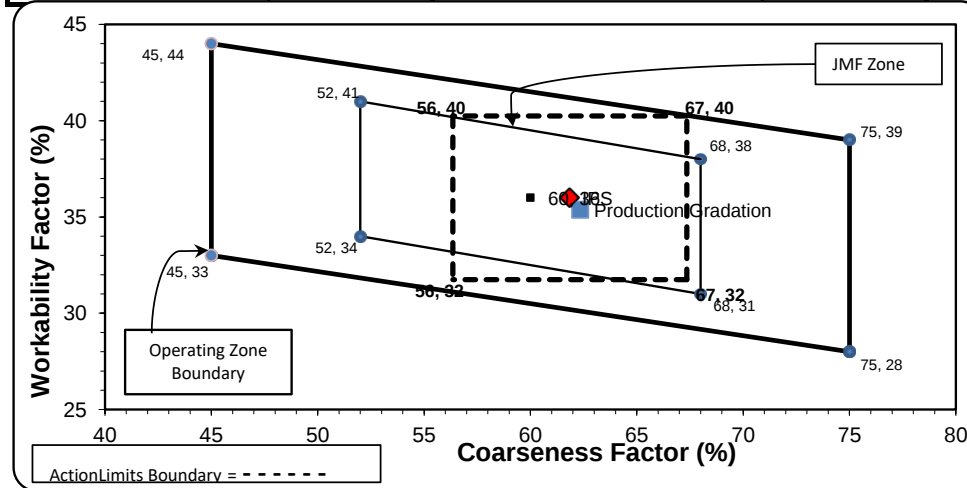


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Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	33	35.4
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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

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-02**

Sample Date: 6/16/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 6/17/2025 through 6/23/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1450	8.87	2.62	49.9
26A	71-47	Presque Isle	305	1.87	2.62	10.5
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"	99.0	100.0	100.0	99.5	0.5	0.5
3/4"	78.7	100.0	100.0	89.4	10.1	10.6
1/2"	40.2	96.2	100.0	69.8	19.6	30.2
3/8"	19.5	84.2	100.0	58.2	11.6	41.8
#4	2.6	19.2	95.6	41.2	17.0	58.8
#8	1.7	7.2	79.0	32.9	8.3	67.1
#16	1.6	4.2	62.5	26.0	6.9	74.0
#30	1.6	3.4	46.9	19.7	6.3	80.3
#50	1.5	3.1	25.8	11.3	8.4	88.7
#100	1.5	2.9	7.1	3.9	7.4	96.1
LBW	1.2	2.7	1.1	1.3	2.5	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 4% for the 3/4" sieve when

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



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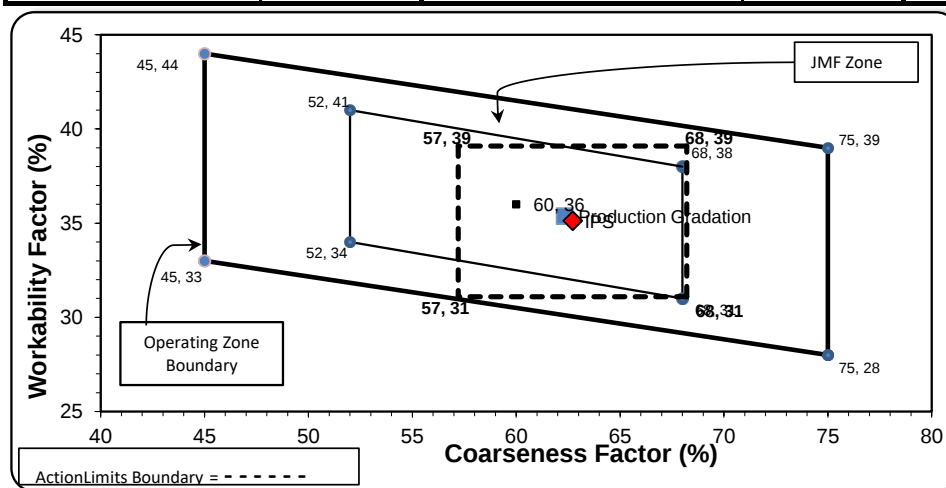
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	33	35.4
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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

PREPARED BY:
SM, LLC Technical Service

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