

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Sample Date: 8/11/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 8/12/2025 through 8/18/2025

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"	99.5	100.0	100.0	99.7	0.3	0.3
3/4"	81.8	100.0	100.0	90.4	9.3	9.6
1/2"	43.6	99.6	100.0	70.3	20.1	29.7
3/8"	24.2	87.9	100.0	59.1	11.2	40.9
#4	3.5	13.2	99.1	41.6	17.6	58.4
#8	1.4	3.6	85.5	34.4	7.2	65.6
#16	1.2	2.7	68.2	27.4	6.9	72.6
#30	1.2	2.2	49.7	20.2	7.3	79.8
#50	1.2	2.0	22.2	9.5	10.7	90.5
#100	1.0	1.9	4.0	2.2	7.2	97.8
LBW	0.9	1.4	0.7	0.9	1.4	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.



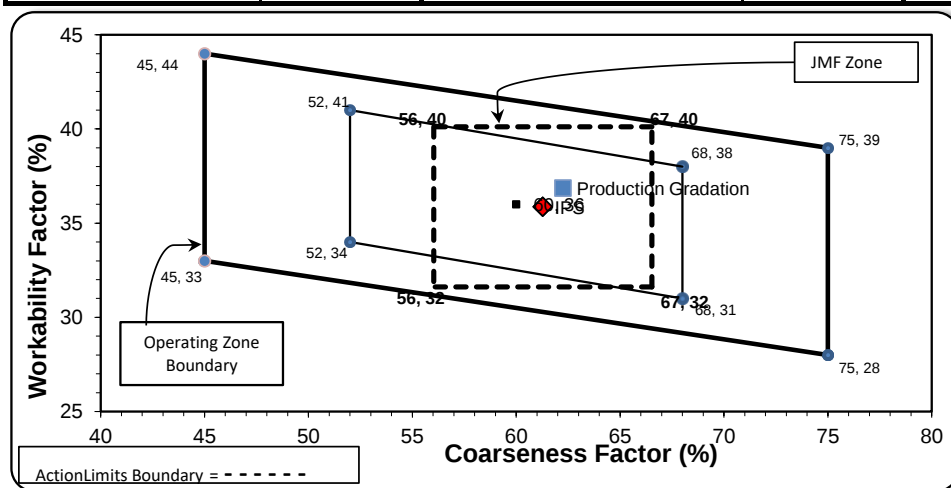
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	34	36.9
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Coarseness Factor:		61	
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"	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 #: **12**

Sample Date: **8/11/25**

Dates Test Represents: **8/12/2025** through **8/18/2025**

Concrete Grade: **DM, 4500HP**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1605	9.82	2.62	55.2
26A	71-47	Presque Isle	150	0.92	2.62	5.2
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"	97.0	100.0	100.0	98.3	1.7	1.7
3/4"	81.5	100.0	100.0	89.8	8.6	10.2
1/2"	47.4	99.2	100.0	70.9	18.9	29.1
3/8"	29.4	85.7	100.0	60.3	10.6	39.7
#4	6.7	21.6	97.2	43.3	17.0	56.7
#8	3.1	6.6	80.7	34.0	9.3	66.0
#16	2.4	3.5	62.1	26.1	7.9	73.9
#30	2.2	2.8	45.2	19.3	6.8	80.7
#50	2.1	2.6	23.6	10.6	8.6	89.4
#100	1.9	2.5	5.9	3.5	7.1	96.5
LBW	1.6	2.3	1.1	1.4	2.1	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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

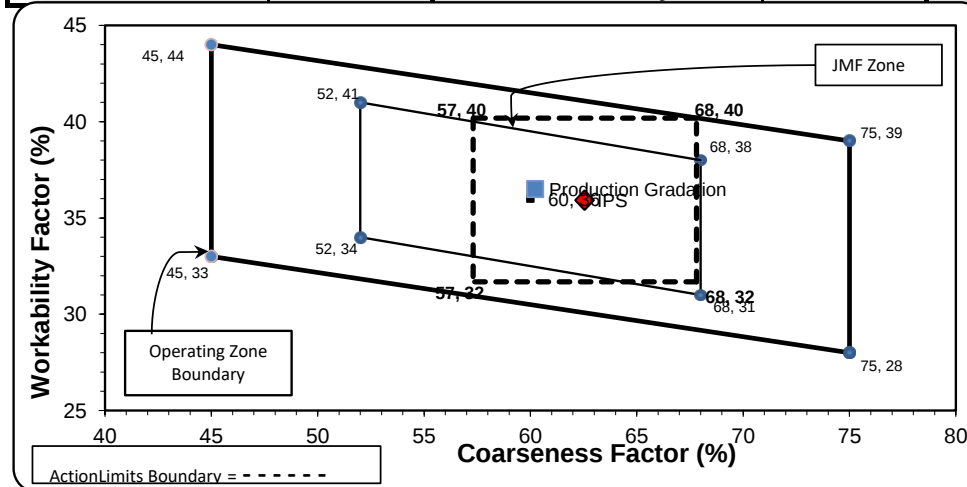


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Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	60	Workability Factor:	34	36.5
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Coarseness Factor:		63	
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"	99.3	0.7	0.7
3/4"	89.0	10.3	11.0
1/2"	70.3	18.7	29.7
3/8"	59.9	10.4	40.1
#4	41.9	18.0	58.1
#8	35.9	6.0	64.1
#16	27.8	8.2	72.2
#30	18.9	8.8	81.1
#50	6.3	12.6	93.7
#100	1.7	4.6	98.3
LBW	1.0	0.7	99.0

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **p11**

Sample Date: **8/11/25**

Dates Test Represents: **8/12/2025** through **8/18/2025**

Concrete Grade: **DM, 4500HP**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1605	9.82	2.62	55.2
26A	71-47	Presque Isle	150	0.92	2.62	5.2
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"	97.0	100.0	100.0	98.3	1.7	1.7
3/4"	81.5	100.0	100.0	89.8	8.6	10.2
1/2"	47.4	99.2	100.0	70.9	18.9	29.1
3/8"	29.4	85.7	100.0	60.3	10.6	39.7
#4	6.7	21.6	97.2	43.3	17.0	56.7
#8	3.1	6.6	80.7	34.0	9.3	66.0
#16	2.4	3.5	62.1	26.1	7.9	73.9
#30	2.2	2.8	45.2	19.3	6.8	80.7
#50	2.1	2.6	23.6	10.6	8.6	89.4
#100	1.9	2.5	5.9	3.5	7.1	96.5
LBW	1.6	2.3	1.1	1.4	2.1	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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

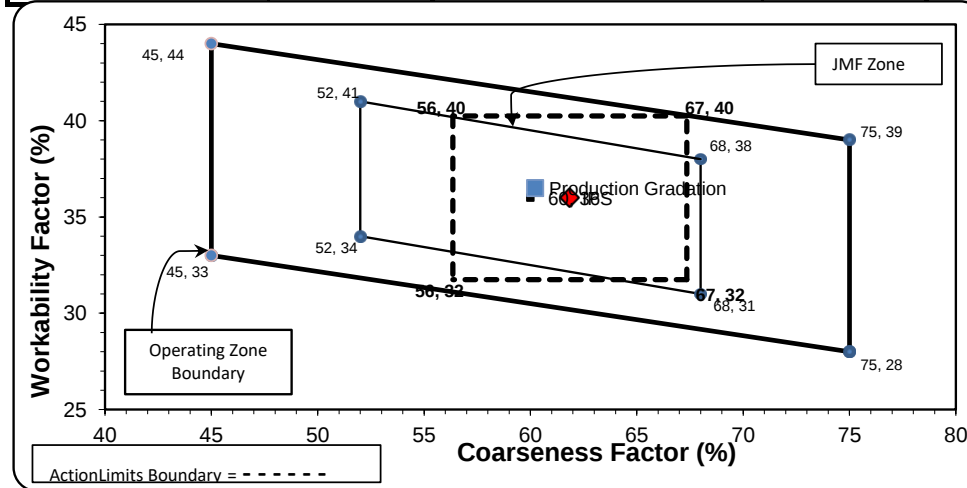


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Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	60	Workability Factor:	34	Adjusted WF	36.5	Coarseness Factor:	62
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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: 8/11/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 8/12/2025 through 8/18/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1605	9.82	2.62	55.2
26A	71-47	Presque Isle	150	0.92	2.62	5.2
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"	97.0	100.0	100.0	98.3	1.7	1.7
3/4"	81.5	100.0	100.0	89.8	8.6	10.2
1/2"	47.4	99.2	100.0	70.9	18.9	29.1
3/8"	29.4	85.7	100.0	60.3	10.6	39.7
#4	6.7	21.6	97.2	43.3	17.0	56.7
#8	3.1	6.6	80.7	34.0	9.3	66.0
#16	2.4	3.5	62.1	26.1	7.9	73.9
#30	2.2	2.8	45.2	19.3	6.8	80.7
#50	2.1	2.6	23.6	10.6	8.6	89.4
#100	1.9	2.5	5.9	3.5	7.1	96.5
LBW	1.6	2.3	1.1	1.4	2.1	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 4% for the 3/4" sieve when

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



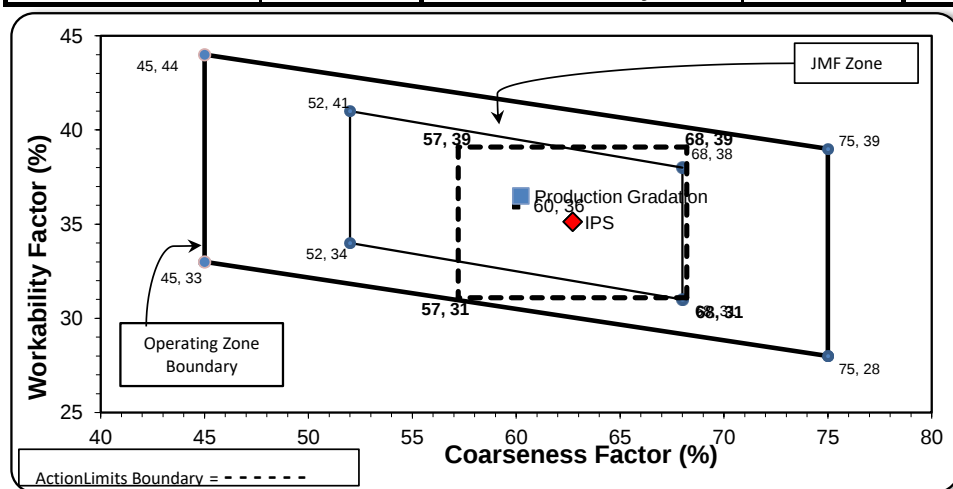
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Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	60	Workability Factor:	34	36.5
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Coarseness Factor:		63	
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"	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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SM, LLC Technical Service

Approved By:

[Signature]