

# Aggregate Optimization Chart

**PLANT #:** **P-102**

Sample Date: 2/12/24

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 2/13/2024 through 2/19/2024

Contractor: \_\_\_\_\_

MDOT No.: \_\_\_\_\_

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1550	9.23	2.69	50.0
26A	58-003	Stoneco	350	2.09	2.69	11.3
2NS	63-114	Highland	1200	7.26	2.65	38.7
<b>Total Wt</b>			<b>3100</b>	<b>18.58</b>		<b>100.0</b>

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



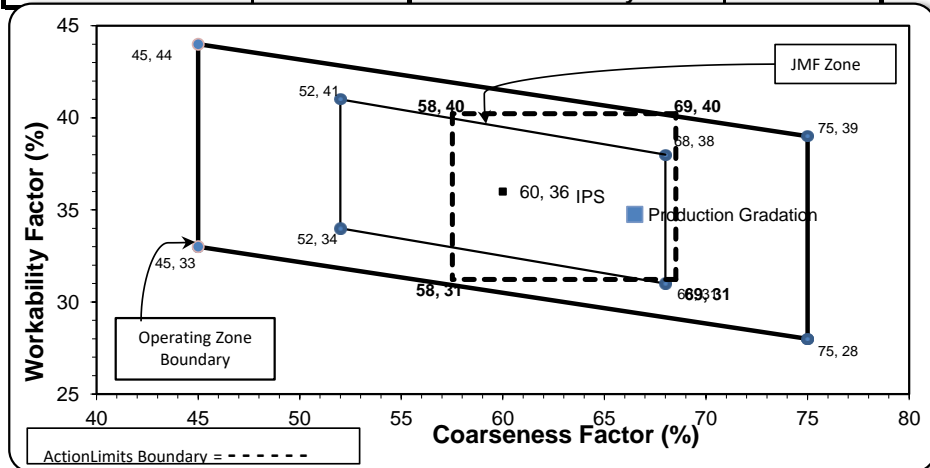
**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

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"	99.9	100.0	100.0	100.0	0.0	0.0
3/4"	86.2	100.0	100.0	93.1	6.9	6.9
1/2"	39.3	99.0	100.0	69.5	23.6	30.5
3/8"	16.1	87.3	100.0	56.6	12.9	43.4
#4	2.8	10.8	99.1	41.0	15.6	59.0
#8	2.1	3.3	86.1	34.8	6.2	65.2
#16	1.9	2.3	68.4	27.7	7.1	72.3
#30	1.7	2.0	49.1	20.1	7.6	79.9
#50	1.6	1.8	20.8	9.1	11.0	90.9
#100	1.6	1.8	3.5	2.4	6.7	97.6
LBW	1.4	1.6	0.8	1.2	1.2	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.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

**Coarseness Factor:** **66**      **Workability Factor:** **35**



Initial Production Sample (IPS)

**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"	99.2	0.8	0.8
3/4"	90.9	8.3	9.1
1/2"	71.3	19.6	28.7
3/8"	59.5	11.8	40.5
#4	43.8	15.7	56.2
#8	35.7	8.1	64.3
#16	27.0	8.7	73.0
#30	18.6	8.4	81.4
#50	6.8	11.8	93.2
#100	1.4	5.4	98.6
LBW	0.6	0.8	99.4

PREPARED BY:  
 SM, LLC Technical Service

Approved By:

# Aggregate Optimization Chart

**PLANT #:** **P-O2**

Sample Date: 2/12/24 Concrete Grade: **S2M, 3500HP**  
 Dates Test Represents: 2/13/2024 through 2/19/2024

Contractor: \_\_\_\_\_

MDOT No.: \_\_\_\_\_

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1500	9.17	2.62	49.2
26A	71-47	Presque Isle	320	1.96	2.62	10.5
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3
<b>Total Wt</b>			<b>3050</b>	<b>18.57</b>		<b>100.0</b>

<---- Verify this number is 100%



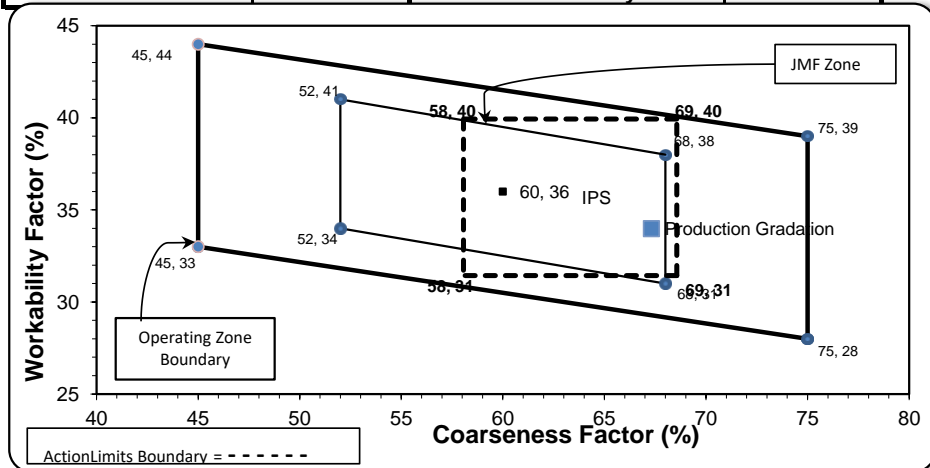
**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
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Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	98.7	100.0	100.0	99.4	0.6	0.6
3/4"	79.2	100.0	100.0	89.8	9.6	10.2
1/2"	27.8	94.7	100.0	63.9	25.8	36.1
3/8"	13.8	80.6	100.0	55.6	8.4	44.4
#4	2.4	13.0	97.0	41.7	13.9	58.3
#8	1.5	2.9	81.7	34.0	7.7	66.0
#16	1.3	1.9	66.9	27.8	6.2	72.2
#30	1.2	1.6	51.1	21.4	6.5	78.6
#50	1.2	1.5	26.1	11.3	10.1	88.7
#100	1.2	1.5	4.5	2.6	8.7	97.4
LBW	1.0	1.4	0.8	1.0	1.6	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.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

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



Initial Production Sample (IPS)

**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"	100.0	0.0	0.0
3/4"	95.6	4.4	4.4
1/2"	73.1	22.6	26.9
3/8"	59.3	13.8	40.7
#4	42.8	16.5	57.2
#8	35.7	7.1	64.3
#16	28.9	6.8	71.1
#30	20.7	8.2	79.3
#50	9.9	10.8	90.1
#100	2.1	7.8	97.9
LBW	0.9	1.2	99.1

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