

# Aggregate Optimization Chart

**PLANT #:** **P-32**

Sample Date: 2/18/19

Concrete Grade: **DM**

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

Dates Test Represents: 2/19/2019 through 2/25/2019

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1450	8.87	2.62	49.2
26A	71-47	Presque Isle	300	1.83	2.62	10.2
2NS	63-54	Holly	1200	7.26	2.65	40.7
<b>Total Wt</b>			<b>2950</b>	<b>17.96</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"	99.1	100.0	100.0	99.6	0.4	0.4
3/4"	87.8	100.0	100.0	94.0	5.6	6.0
1/2"	48.0	96.0	100.0	74.0	20.0	26.0
3/8"	22.1	82.6	100.0	59.9	14.1	40.1
#4	2.6	11.5	96.8	41.8	18.1	58.2
#8	1.7	3.0	84.3	35.4	6.4	64.6
#16	1.5	2.1	68.2	28.7	6.7	71.3
#30	1.4	1.8	48.3	20.5	8.2	79.5
#50	1.3	1.7	18.7	8.4	12.1	91.6
#100	1.2	1.5	2.6	1.8	6.6	98.2
LBW	1.0	1.2	0.3	0.7	1.1	99.3

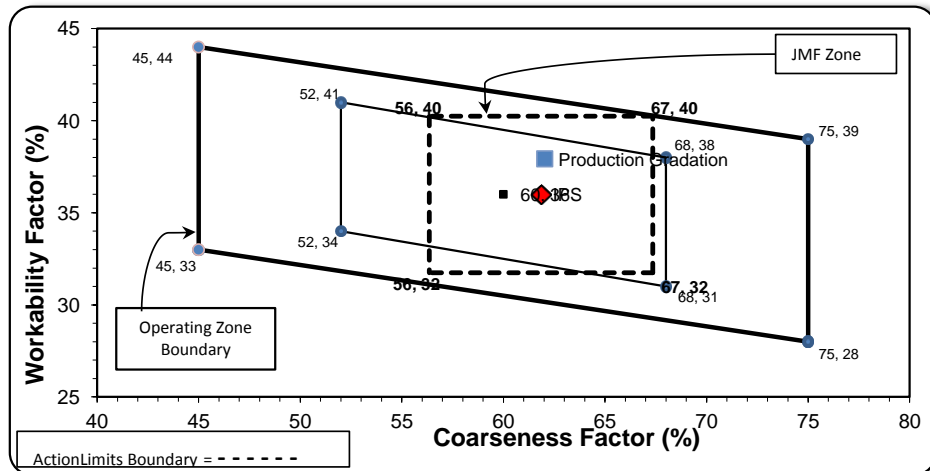
\*Maximum % Retained must be above the 3/8" sieve.  
 \*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.  
 \*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.  
 \*% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>62</b>	<b>Workability Factor:</b>	<b>35</b>	<b>37.9</b>
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<b>Coarseness Factor:</b>	<b>62</b>
<b>Workability Factor:</b>	<b>36</b>



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

**PLANT #:** **P-35**

Sample Date: 2/18/19

Concrete Grade: **DM**

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

Dates Test Represents: 2/19/2019 through 2/25/2019

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1745	10.40	2.69	58.3
26A	58-003	Stoneco	100	0.60	2.69	3.3
2NS	47-16	Buno Rd	1150	6.95	2.65	38.4
<b>Total Wt</b>			<b>2995</b>	<b>17.95</b>		<b>100.0</b>

<----- 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"	86.4	100.0	100.0	92.1	7.9	7.9
1/2"	53.3	99.4	100.0	72.8	19.3	27.2
3/8"	34.2	80.2	100.0	61.0	11.8	39.0
#4	7.3	16.7	96.4	41.8	19.2	58.2
#8	2.6	4.2	86.2	34.8	7.1	65.2
#16	1.9	2.3	73.3	29.3	5.4	70.7
#30	1.7	1.9	53.7	21.7	7.7	78.3
#50	1.6	1.8	18.3	8.0	13.7	92.0
#100	1.5	1.7	2.5	1.9	6.1	98.1
LBW	1.4	1.4	0.3	1.0	0.9	99.0



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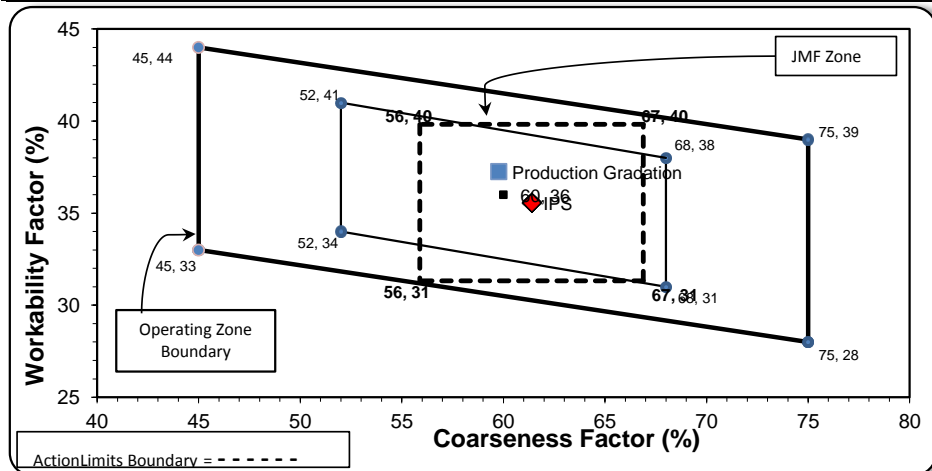
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 \*% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>60</b>	<b>Workability Factor:</b>	<b>35</b>	<b>37.3</b>
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<b>Coarseness Factor:</b>	<b>61</b>
<b>Workability Factor:</b>	<b>36</b>



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"	89.1	10.2	10.9
1/2"	70.5	18.6	29.5
3/8"	60.5	10.0	39.5
#4	44.1	16.4	55.9
#8	35.6	8.5	64.4
#16	27.7	7.9	72.3
#30	20.6	7.1	79.4
#50	8.7	11.8	91.3
#100	1.6	7.1	98.4
LBW	1.1	0.6	98.9

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