

# Aggregate Optimization Chart

**PLANT #:** **P-36**

Sample Date: 2/17/20

Concrete Grade: **TM**

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

Dates Test Represents: 2/18/2020 through 2/24/2020

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1690	10.34	2.62	58.5
26A	71-47	Presque Isle	100	0.61	2.62	3.5
2NS	63-92	Grange Hall	1100	6.65	2.65	38.1
<b>Total Wt</b>			<b>2890</b>	<b>17.60</b>		<b>100.0</b>

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



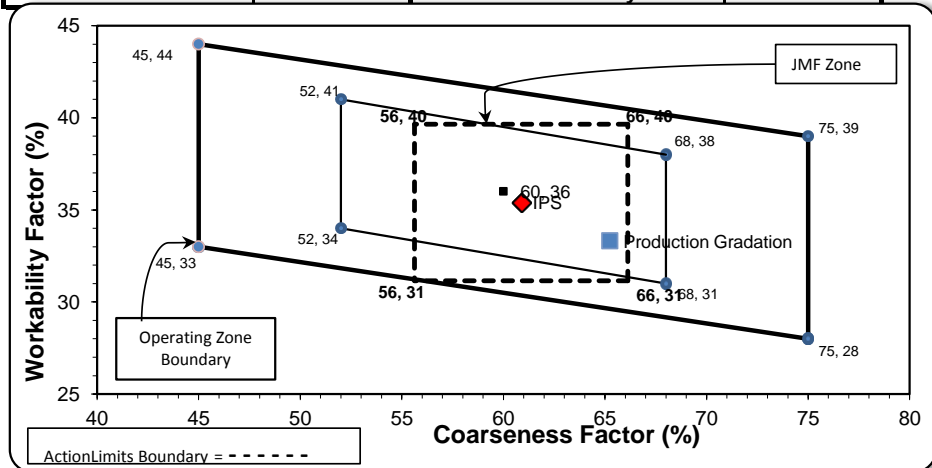
**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

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"	97.9	100.0	100.0	98.8	1.2	1.2
3/4"	85.9	100.0	100.0	91.8	7.0	8.2
1/2"	51.2	99.4	100.0	71.4	20.3	28.6
3/8"	26.9	78.0	100.0	56.5	15.0	43.5
#4	4.4	14.6	97.1	40.0	16.5	60.0
#8	2.0	5.0	84.0	33.3	6.7	66.7
#16	1.6	3.4	69.1	27.4	6.0	72.6
#30	1.6	3.2	49.4	19.8	7.5	80.2
#50	1.6	3.0	19.7	8.5	11.3	91.5
#100	1.4	2.8	2.9	2.0	6.5	98.0
LBW	1.1	2.3	0.3	0.8	1.2	99.2

\*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

<b>Coarseness Factor:</b>	<b>65</b>	<b>Workability Factor:</b>	<b>33</b>
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Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>61</b>		
<b>Workability Factor:</b>	<b>35</b>		
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.1	0.9	0.9
3/4"	90.8	8.3	9.2
1/2"	70.6	20.2	29.4
3/8"	60.7	9.9	39.3
#4	42.3	18.4	57.7
#8	35.4	6.9	64.6
#16	28.7	6.7	71.3
#30	21.3	7.4	78.7
#50	8.8	12.5	91.2
#100	1.8	7.0	98.2
LBW	0.8	1.0	99.2

PREPARED BY:  
 SM, LLC Technical Service

Approved By:

# Aggregate Optimization Chart

**PLANT #:** **P-39**

Sample Date: 2/17/20

Concrete Grade: **TM**

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

Dates Test Represents: 2/18/2020 through 2/24/2020

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1600	9.79	2.62	55.4
26A	71-47	Presque Isle	140	0.86	2.62	4.8
2NS	63-92	Grange Hall	1150	6.95	2.65	39.8
<b>Total Wt</b>			<b>2890</b>	<b>17.60</b>		<b>100.0</b>

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



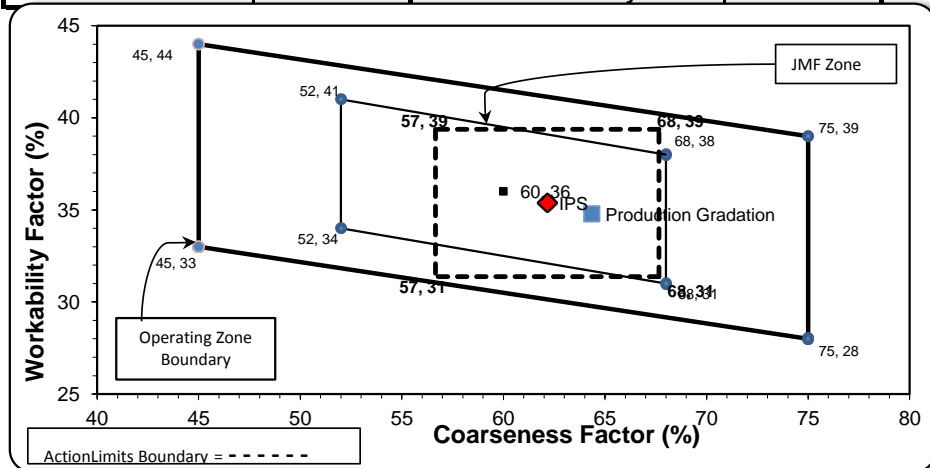
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 30701 W. 10 Mile Rd.  
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Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	99.2	100.0	100.0	99.6	0.4	0.4
3/4"	87.5	100.0	100.0	93.1	6.5	6.9
1/2"	46.0	99.4	100.0	70.1	23.0	29.9
3/8"	26.1	78.0	100.0	58.0	12.1	42.0
#4	4.3	14.6	97.1	41.7	16.3	58.3
#8	2.0	5.0	84.0	34.8	7.0	65.2
#16	1.7	3.4	69.1	28.6	6.2	71.4
#30	1.6	3.2	49.4	20.7	7.9	79.3
#50	1.5	3.0	19.7	8.8	11.9	91.2
#100	1.4	2.8	2.9	2.1	6.8	97.9
LBW	1.2	2.3	0.3	0.9	1.2	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 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

<b>Coarseness Factor:</b>	<b>64</b>	<b>Workability Factor:</b>	<b>35</b>
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Initial Production Sample (IPS)

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"	89.9	10.1	10.1
1/2"	70.9	19.0	29.1
3/8"	59.8	11.1	40.2
#4	42.8	17.0	57.2
#8	35.4	7.4	64.6
#16	28.8	6.5	71.2
#30	21.1	7.7	78.9
#50	9.7	11.4	90.3
#100	3.7	6.1	96.3
LBW	1.2	2.4	98.8

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 SM, LLC Technical Service

Approved By: