

# Aggregate Optimization Chart

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

Sample Date: 1/6/20 Concrete Grade: **TM**  
 Dates Test Represents: 1/7/2020 through 1/13/2020

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

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1540	9.42	2.62	53.3
26A	71-47	Presque Isle	200	1.22	2.62	6.9
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%

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	98.9	1.1	1.1
3/4"	79.4	100.0	100.0	89.0	9.9	11.0
1/2"	48.9	97.8	100.0	72.6	16.4	27.4
3/8"	25.0	77.7	100.0	58.5	14.1	41.5
#4	4.4	15.6	98.1	42.5	16.0	57.5
#8	2.5	4.2	87.1	36.3	6.2	63.7
#16	2.3	3.1	73.5	30.7	5.6	69.3
#30	2.1	2.8	53.4	22.6	8.1	77.4
#50	2.0	2.6	21.4	9.8	12.8	90.2
#100	1.8	2.4	2.2	2.0	7.8	98.0
LBW	1.3	1.6	0.3	0.9	1.1	99.1

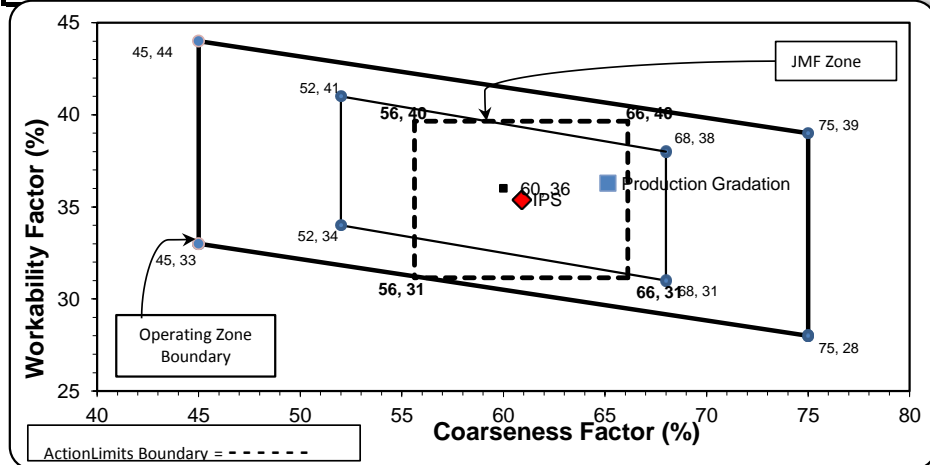


**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

\*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

**Coarseness Factor: 65**      **Workability Factor: 36**



Initial Production Sample (IPS)

Coarseness Factor: 61		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"	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: 1/6/20

Concrete Grade: **TM**

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

Dates Test Represents: 1/7/2020 through 1/13/2020

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1640	10.03	2.62	56.7
26A	71-47	Presque Isle	100	0.61	2.62	3.5
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%



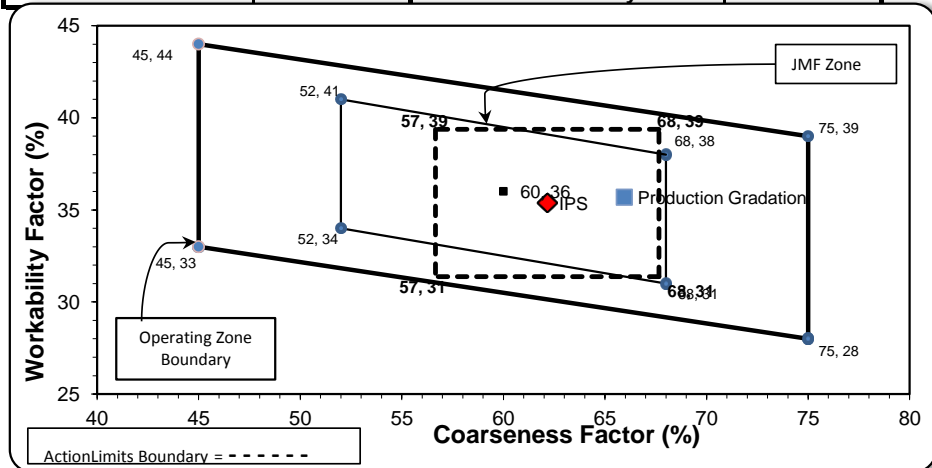
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Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	98.6	100.0	100.0	99.2	0.8	0.8
3/4"	83.2	100.0	100.0	90.5	8.7	9.5
1/2"	43.9	98.0	100.0	68.1	22.4	31.9
3/8"	25.9	89.3	100.0	57.6	10.5	42.4
#4	2.7	22.9	98.1	41.4	16.2	58.6
#8	1.4	6.5	87.1	35.7	5.7	64.3
#16	1.2	3.2	73.5	30.0	5.6	70.0
#30	1.2	2.6	53.4	22.0	8.0	78.0
#50	1.1	2.4	21.4	9.2	12.8	90.8
#100	1.1	2.3	2.2	1.6	7.6	98.4
LBW	1.0	2.0	0.3	0.8	0.8	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>66</b>	<b>Workability Factor:</b>	<b>36</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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