

# Aggregate Optimization Chart

MIX ID'S: DDT0F7ET

Production Gradation Report

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

Sample Date: 10/22/18

Concrete Grade: **TM**

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

Dates Test Represents: 10/23/2018 through 10/29/2018

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1845	10.99	2.69	60.6
26A	58-003	Stoneco	0	0.00	2.69	0.0
2NS	38-046	Chelsea	1200	7.26	2.65	39.4
<b>Total Wt</b>			<b>3045</b>	<b>18.25</b>		<b>100.0</b>

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



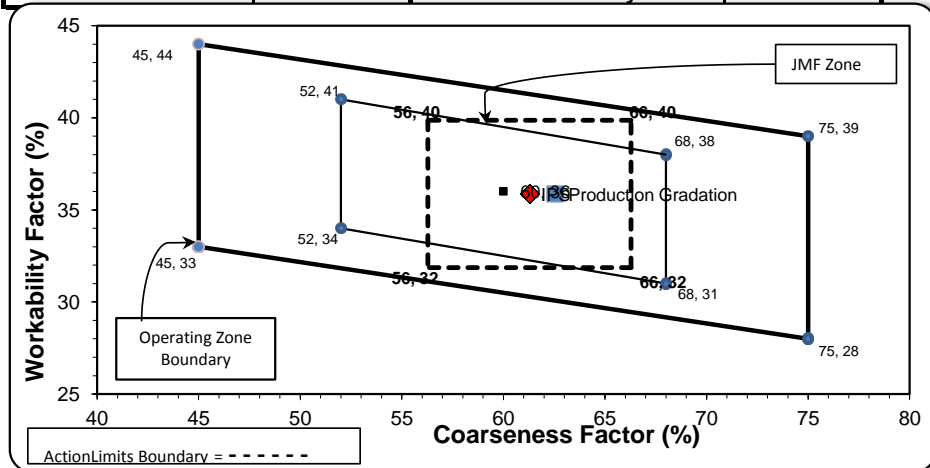
**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	88.2	100.0	100.0	92.9	7.1	7.1
1/2"	55.6	99.8	100.0	73.1	19.8	26.9
3/8"	33.8	87.8	100.0	59.9	13.2	40.1
#4	4.8	18.2	100.0	42.3	17.6	57.7
#8	1.3	4.4	89.0	35.9	6.5	64.1
#16	1.3	2.0	63.0	25.6	10.2	74.4
#30	1.1	1.4	40.0	16.4	9.2	83.6
#50	1.1	1.2	20.0	8.5	7.9	91.5
#100	1.0	1.2	5.0	2.6	6.0	97.4
LBW	0.7	1.0	0.9	0.8	1.8	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>63</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"	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:

# Aggregate Optimization Chart

MIX ID'S: DDT0F7ET

Production Gradation Report

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

Sample Date: 10/22/18

Concrete Grade: **TM**

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

Dates Test Represents: 10/23/2018 through 10/29/2018

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1495	9.14	2.62	49.9
26A	71-47	Presque Isle	300	1.83	2.62	10.0
2NS	63-92	AA Grange Hall	1200	7.26	2.65	40.1
<b>Total Wt</b>			<b>2995</b>	<b>18.24</b>		<b>100.0</b>

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



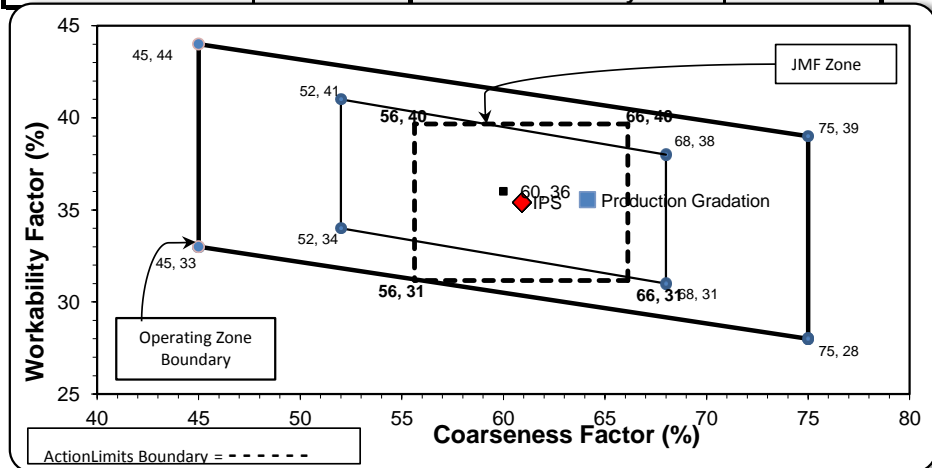
**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

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"	97.8	100.0	100.0	98.9	1.1	1.1
3/4"	81.6	100.0	100.0	90.8	8.1	9.2
1/2"	40.9	96.1	100.0	70.1	20.7	29.9
3/8"	20.9	81.4	100.0	58.7	11.5	41.3
#4	4.0	18.2	97.2	42.8	15.9	57.2
#8	2.5	6.0	84.1	35.5	7.2	64.5
#16	2.2	3.7	69.0	29.1	6.4	70.9
#30	2.0	3.1	50.8	21.7	7.5	78.3
#50	2.0	2.8	23.3	10.6	11.0	89.4
#100	1.8	2.5	3.4	2.5	8.1	97.5
LBW	1.5	1.8	0.3	1.0	1.5	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 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>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"	95.9	4.1	4.1
1/2"	74.3	21.5	25.7
3/8"	60.7	13.6	39.3
#4	42.6	18.1	57.4
#8	35.4	7.2	64.6
#16	28.7	6.7	71.3
#30	20.5	8.2	79.5
#50	9.8	10.7	90.2
#100	2.1	7.7	97.9
LBW	0.9	1.2	99.1

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