

# Aggregate Optimization Chart

MIX ID'S: DDT0F7ET

Production Gradation Report

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

Sample Date: 6/18/18

Concrete Grade: TM

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

Dates Test Represents: 6/19/2018 through 6/25/2018

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1545	9.20	2.69	50.7
26A	58-003	Stoneco	300	1.79	2.69	9.9
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%



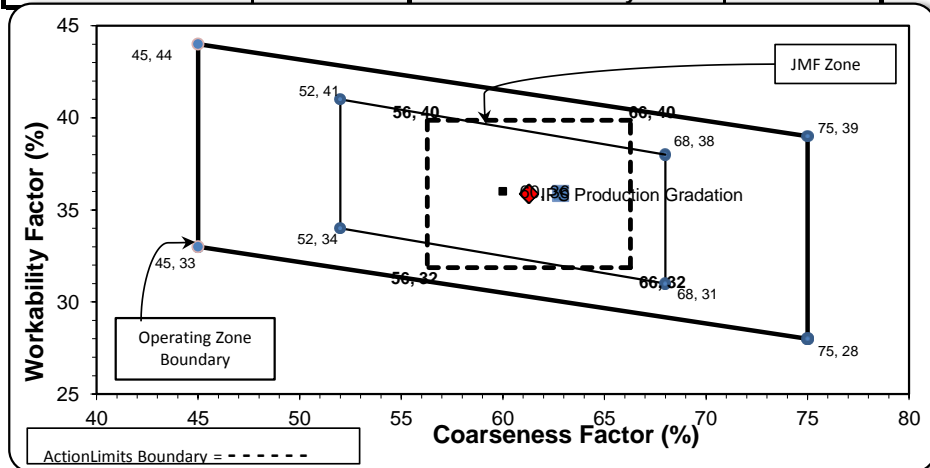
**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

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"	82.8	100.0	100.0	91.3	8.7	8.7
1/2"	43.3	99.8	100.0	71.2	20.1	28.8
3/8"	22.6	89.6	100.0	59.7	11.5	40.3
#4	3.2	20.6	100.0	43.1	16.6	56.9
#8	1.3	5.5	88.0	35.9	7.2	64.1
#16	1.3	2.3	63.0	25.7	10.2	74.3
#30	1.2	1.6	39.0	16.1	9.6	83.9
#50	1.0	1.5	17.0	7.4	8.8	92.6
#100	0.9	1.4	3.0	1.8	5.6	98.2
LBW	0.6	1.3	0.9	0.8	1.0	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)

<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"	89.2	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: 6/18/18

Concrete Grade: TM

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

Dates Test Represents: 6/19/2018 through 6/25/2018

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1620	9.91	2.62	54.1
26A	71-47	Presque Isle	150	0.92	2.62	5.0
2NS	63-92	AA Grange Hall	1225	7.41	2.65	40.9
<b>Total Wt</b>			<b>2995</b>	<b>18.23</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"	91.7	100.0	100.0	95.5	4.5	4.5
1/2"	52.2	95.0	100.0	73.9	21.6	26.1
3/8"	26.9	83.9	100.0	59.7	14.2	40.3
#4	3.9	23.7	97.1	43.0	16.6	57.0
#8	2.2	7.9	83.5	35.7	7.3	64.3
#16	1.9	4.3	67.9	29.0	6.7	71.0
#30	1.8	3.4	49.8	21.5	7.5	78.5
#50	1.7	3.0	23.4	10.6	10.9	89.4
#100	1.6	2.7	3.7	2.5	8.1	97.5
LBW	1.4	2.3	0.4	1.0	1.5	99.0

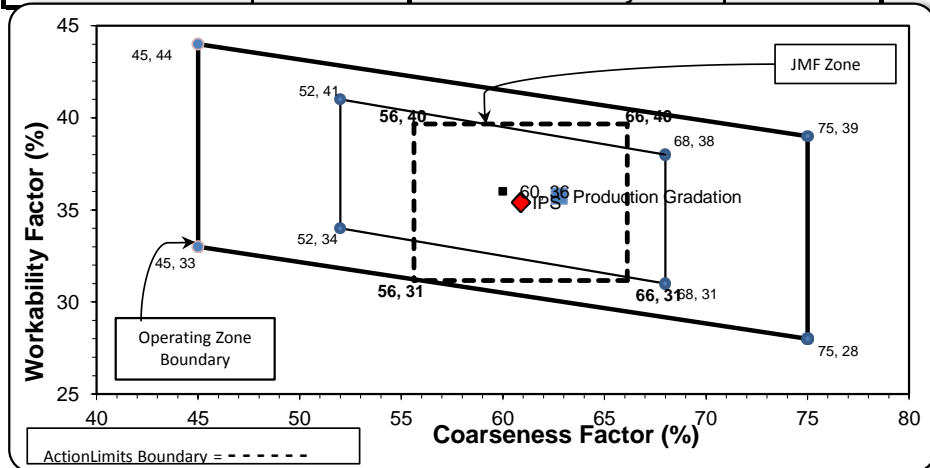
\*Maximum % Retained must be above the 3/8" sieve.  
 \*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.  
 \*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.  
 \*% Retained must be at least 8% for the 1" sieve when a 2"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



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Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

**Coarseness Factor:** **63**      **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"	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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