

# Aggregate Optimization Chart

MIX ID'S: DDD0K7E7 and DDD0K7E9

Production Gradation Report

**PLANT #:** **P-103**

Sample Date: 1/30/17

Concrete Grade: **DM**

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

Dates Test Represents: 1/30/2017 to 2/5/2017

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1350	8.04	2.69	45.2
26A	58-003	Stoneco	420	2.50	2.69	14.0
2NS	81-93	Burmeister	1220	7.41	2.64	40.8
<b>Total Wt</b>			<b>2990</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"	85.2	100.0	100.0	93.3	6.7	6.7
1/2"	41.8	99.8	100.0	73.7	19.6	26.3
3/8"	21.1	86.7	100.0	62.5	11.2	37.5
#4	4.1	13.8	99.2	44.3	18.2	55.7
#8	1.8	3.0	87.0	36.7	7.5	63.3
#16	1.2	1.5	72.0	30.1	6.6	69.9
#30	1.0	1.2	52.2	21.9	8.2	78.1
#50	0.9	1.1	18.7	8.2	13.7	91.8
#100	0.8	1.0	2.5	1.5	6.7	98.5
LBW	1.0	0.8	0.7	0.8	0.7	99.2

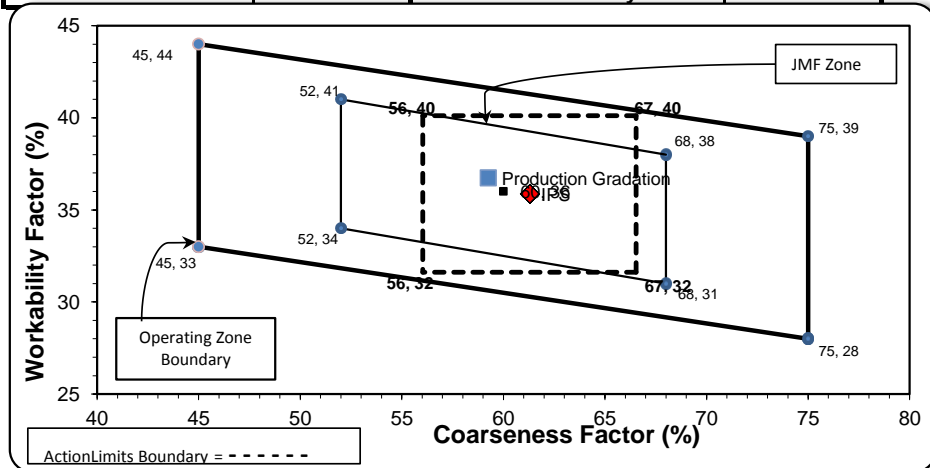
\*Maximum % Retained must be above the 3/8" sieve.  
 \*Any two adjacent sieves must equal 13% except max., nom. max., #100 and #200 sieves.  
 \*% Retained must be at least 5% for each sieve except max., nom. max., #100 and #200 sieves.  
 \*% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.



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

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

<b>Coarseness Factor:</b>	<b>59</b>	<b>Workability Factor:</b>	<b>37</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: DDD0K7E7 and DDD0K7E9

Production Gradation Report

**PLANT #:** **P-38**

Sample Date: 1/30/17

Concrete Grade: **DM**

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

Dates Test Represents: 1/30/2017 to 2/5/2017

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1350	8.04	2.69	45.2
26A	58-003	Stoneco	420	2.50	2.69	14.0
2NS	81-93	Burmeister	1220	7.41	2.64	40.8
<b>Total Wt</b>			<b>2990</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"	85.2	100.0	100.0	93.3	6.7	6.7
1/2"	41.8	99.8	100.0	73.7	19.6	26.3
3/8"	21.1	86.7	100.0	62.5	11.2	37.5
#4	4.1	13.8	99.2	44.3	18.2	55.7
#8	1.8	3.0	87.0	36.7	7.5	63.3
#16	1.2	1.5	72.0	30.1	6.6	69.9
#30	1.0	1.2	52.2	21.9	8.2	78.1
#50	0.9	1.1	18.7	8.2	13.7	91.8
#100	0.8	1.0	2.5	1.5	6.7	98.5
LBW	1.0	0.8	0.7	0.8	0.7	99.2

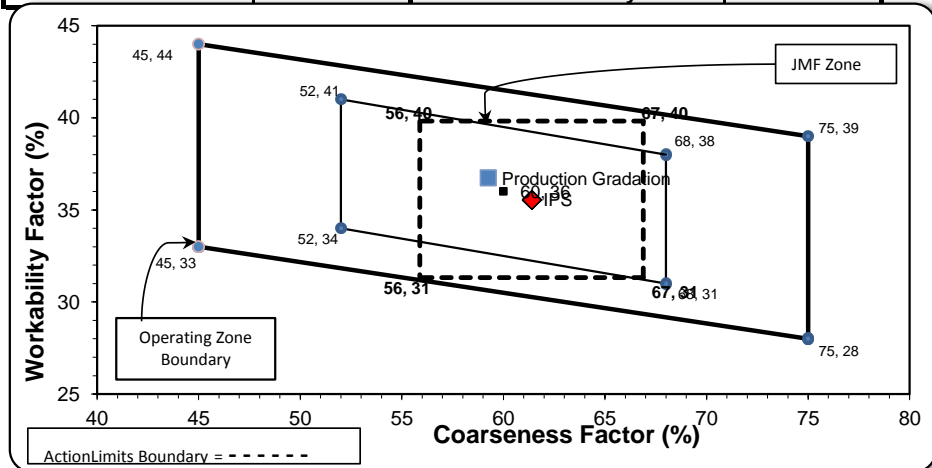
\*Maximum % Retained must be above the 3/8" sieve.  
 \*Any two adjacent sieves must equal 13% except max., nom. max., #100 and #200 sieves.  
 \*% Retained must be at least 5% for each sieve except max., nom. max., #100 and #200 sieves.  
 \*% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.



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Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Coarseness Factor: **59**      Workability Factor: **37**



Initial Production Sample (IPS)

Coarseness Factor: <b>61</b>		Workability Factor: <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

PREPARED BY:  
 SM, LLC Technical Service

Approved By: