

# Aggregate Optimization Chart

MIX ID'S: DDS257E7 and DDS257E8

Production Gradation Report

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

Sample Date: 1/23/17

Concrete Grade: **S2M**

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

Dates Test Represents: 1/23/2017 to 1/29/2017

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1415	8.43	2.69	44.8
26A	58-003	Stoneco	450	2.68	2.69	14.3
2NS	81-93	Burmeister	1290	7.83	2.64	40.9
<b>Total Wt</b>			<b>3155</b>	<b>18.94</b>		<b>100.0</b>

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



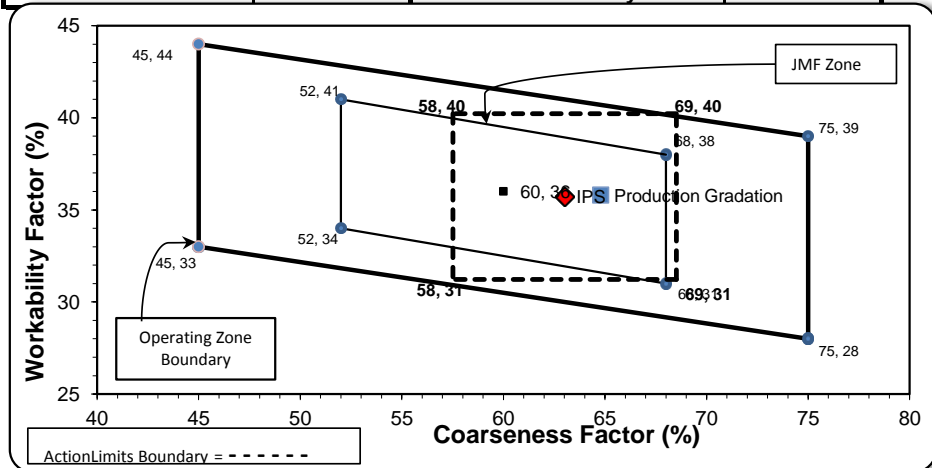
**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

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"	99.0	100.0	100.0	99.6	0.4	0.4
3/4"	73.9	100.0	100.0	88.3	11.3	11.7
1/2"	37.9	99.8	100.0	72.1	16.2	27.9
3/8"	10.6	89.5	100.0	58.4	13.7	41.6
#4	1.3	13.3	98.6	42.8	15.6	57.2
#8	0.8	2.8	85.7	35.8	7.0	64.2
#16	0.7	1.5	70.4	29.3	6.5	70.7
#30	0.7	1.3	51.5	21.6	7.8	78.4
#50	0.6	1.2	20.2	8.7	12.9	91.3
#100	0.6	1.1	3.5	1.9	6.8	98.1
LBW	0.5	0.8	1.3	0.9	1.0	99.1

\*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.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

<b>Coarseness Factor:</b>	<b>65</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"	99.2	0.8	0.8
3/4"	90.9	8.3	9.1
1/2"	71.3	19.6	28.7
3/8"	59.5	11.8	40.5
#4	43.8	15.7	56.2
#8	35.7	8.1	64.3
#16	27.0	8.7	73.0
#30	18.6	8.4	81.4
#50	6.8	11.8	93.2
#100	1.4	5.4	98.6
LBW	0.6	0.8	99.4

PREPARED BY:  
 SM, LLC Technical Service

Approved BY:

# Aggregate Optimization Chart

MIX ID'S: DDS257E7 and DDS257E8

Production Gradation Report

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

Sample Date: 1/23/17

Concrete Grade: **S2M**

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

Dates Test Represents: 1/23/2017 to 1/29/2017

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1415	8.43	2.69	44.8
26A	58-003	Stoneco	450	2.68	2.69	14.3
2NS	81-93	Burmeister	1290	7.83	2.64	40.9
<b>Total Wt</b>			<b>3155</b>	<b>18.94</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"	99.0	100.0	100.0	99.6	0.4	0.4
3/4"	73.9	100.0	100.0	88.3	11.3	11.7
1/2"	37.9	99.8	100.0	72.1	16.2	27.9
3/8"	10.6	89.5	100.0	58.4	13.7	41.6
#4	1.3	13.3	98.6	42.8	15.6	57.2
#8	0.8	2.8	85.7	35.8	7.0	64.2
#16	0.7	1.5	70.4	29.3	6.5	70.7
#30	0.7	1.3	51.5	21.6	7.8	78.4
#50	0.6	1.2	20.2	8.7	12.9	91.3
#100	0.6	1.1	3.5	1.9	6.8	98.1
LBW	0.5	0.8	1.3	0.9	1.0	99.1

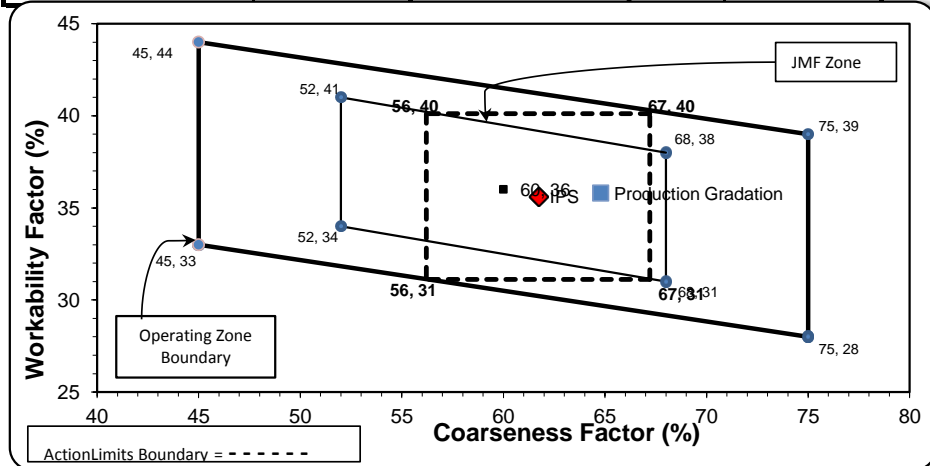


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 \*% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

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



Initial Production Sample (IPS)

Coarseness Factor: <b>62</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"	99.2	0.8	0.8
3/4"	91.1	8.1	8.9
1/2"	72.0	19.1	28.0
3/8"	60.3	11.7	39.7
#4	43.4	16.9	56.6
#8	35.6	7.8	64.4
#16	28.4	7.2	71.6
#30	21.8	6.7	78.2
#50	9.1	12.6	90.9
#100	1.7	7.4	98.3
LBW	1.1	0.6	98.9

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Approved By: