

# Aggregate Optimization Chart

MIX ID'S: DDS257E7, DDS257E5 and DDS257E8

Production Gradation Report

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

Sample Date: 8/21/17

Concrete Grade: **S2M**

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

Dates Test Represents: 8/21/2017 to 8/27/2017

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1700	10.13	2.69	53.9
26A	58-003	Stoneco	155	0.92	2.69	4.9
2NS	81-93	Burmeister	1300	7.89	2.64	41.2
<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"	99.7	100.0	100.0	99.8	0.2	0.2
3/4"	81.9	100.0	100.0	90.2	9.6	9.8
1/2"	44.5	99.6	100.0	70.1	20.2	29.9
3/8"	24.9	84.8	100.0	58.8	11.3	41.2
#4	4.3	27.5	97.1	43.7	15.1	56.3
#8	1.9	6.0	84.3	36.1	7.6	63.9
#16	0.7	2.7	69.8	29.3	6.8	70.7
#30	0.6	2.0	50.9	21.4	7.9	78.6
#50	0.5	1.8	20.6	8.8	12.5	91.2
#100	0.4	1.8	3.1	1.6	7.3	98.4
LBW	1.0	1.6	0.9	1.0	0.6	99.0

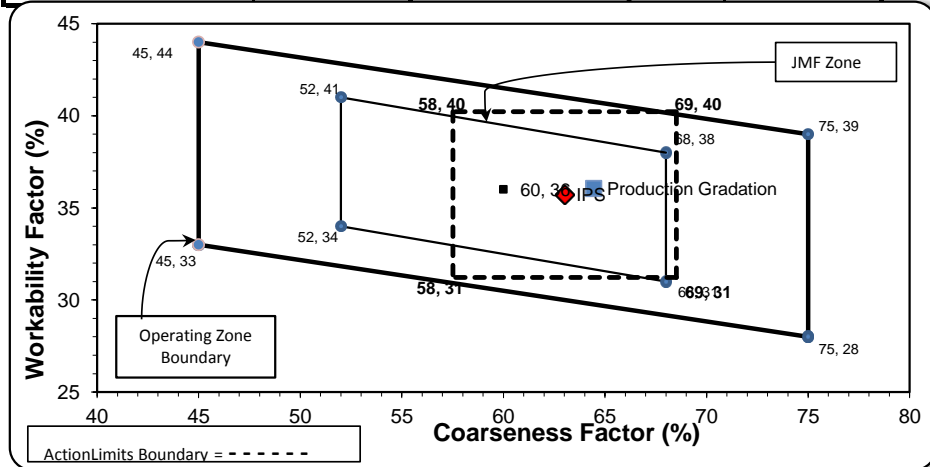


**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

\*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: 64**      **Workability Factor: 36**



Initial Production Sample (IPS)

Coarseness Factor: 63		Workability Factor: 36	
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.9	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: WSN175E9

Production Gradation Report

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

Sample Date: 8/21/17

Dates Test Represents: 8/21/2017 to 8/27/2017

Concrete Grade: **S2M (SPECIAL, 5000 PSI)**

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

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1630	9.71	2.69	54.5
26A	71-47	Presque Isle	150	0.92	2.62	5.0
2NS	63-92	AA Grange Hall	1210	7.32	2.65	40.5
<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"	99.7	100.0	100.0	99.8	0.2	0.2
3/4"	81.9	100.0	100.0	90.1	9.7	9.9
1/2"	44.5	97.1	100.0	69.6	20.5	30.4
3/8"	24.9	86.1	100.0	58.4	11.2	41.6
#4	4.3	14.9	98.5	43.0	15.4	57.0
#8	1.9	3.8	87.8	36.8	6.2	63.2
#16	0.7	2.4	71.8	29.6	7.2	70.4
#30	0.6	2.1	49.2	20.3	9.2	79.7
#50	0.5	2.1	18.7	7.9	12.4	92.1
#100	0.4	2.1	2.7	1.4	6.5	98.6
LBW	1.0	1.9	0.3	0.8	0.7	99.2

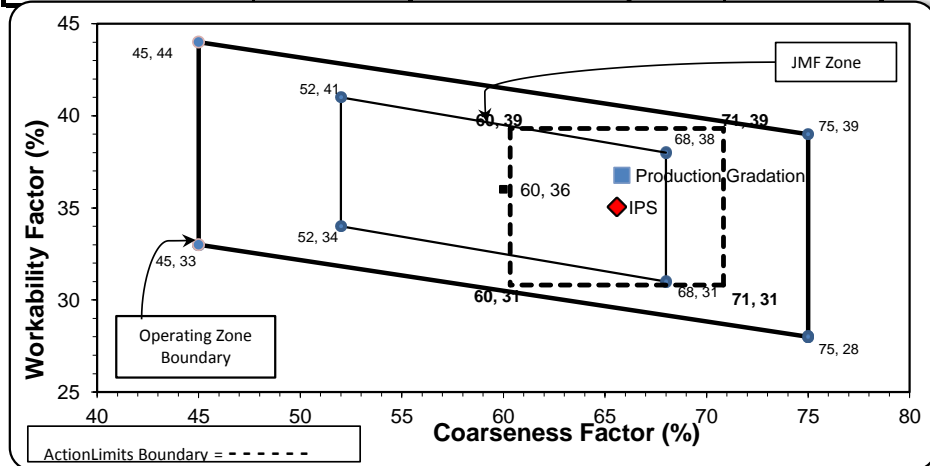
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Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

**Coarseness Factor: 66**      **Workability Factor: 37**



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"	91.7	8.3	8.3
1/2"	66.8	24.8	33.2
3/8"	57.4	9.4	42.6
#4	43.0	14.4	57.0
#8	35.1	7.9	64.9
#16	28.0	7.1	72.0
#30	19.5	8.5	80.5
#50	8.1	11.4	91.9
#100	2.0	6.1	98.0
LBW	0.7	1.3	99.3

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Approved By:

# Aggregate Optimization Chart

MIX ID'S: DDS257E7, DDS257E5 and DDS257E8

Production Gradation Report

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

Sample Date: 8/21/17

Concrete Grade: **S2M**

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

Dates Test Represents: 8/21/2017 to 8/27/2017

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
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<b>Total Wt</b>			<b>3155</b>	<b>18.94</b>		<b>100.0</b>

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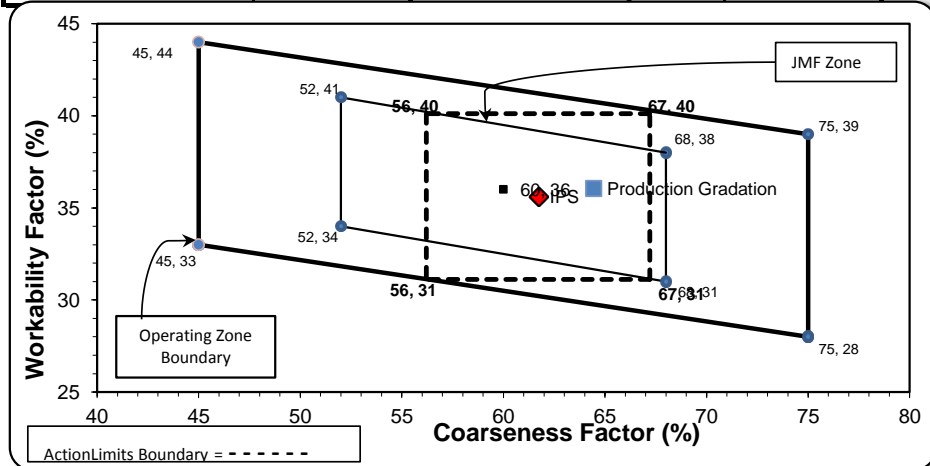
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2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	99.7	100.0	100.0	99.8	0.2	0.2
3/4"	81.9	100.0	100.0	90.2	9.6	9.8
1/2"	44.5	99.6	100.0	70.1	20.2	29.9
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#4	4.3	27.5	97.1	43.7	15.1	56.3
#8	1.9	6.0	84.3	36.1	7.6	63.9
#16	0.7	2.7	69.8	29.3	6.8	70.7
#30	0.6	2.0	50.9	21.4	7.9	78.6
#50	0.5	1.8	20.6	8.8	12.5	91.2
#100	0.4	1.8	3.1	1.6	7.3	98.4
LBW	1.0	1.6	0.9	1.0	0.6	99.0

\*Maximum % Retained must be above the 3/8" sieve.  
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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"	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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