

# Aggregate Optimization Chart

MIX ID'S: DDD0K7E7 and DDD0K7E9

Production Gradation Report

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

Sample Date: 10/30/17

Concrete Grade: **DM**

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

Dates Test Represents: 10/30/2017 to 11/5/2017

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1600	9.53	2.69	53.5
26A	58-003	Stoneco	150	0.89	2.69	5.0
2NS	81-93	Burmeister	1240	7.53	2.64	41.5
<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"	99.8	100.0	100.0	99.9	0.1	0.1
3/4"	86.7	100.0	100.0	92.9	7.0	7.1
1/2"	50.5	99.8	100.0	73.5	19.4	26.5
3/8"	28.2	79.4	100.0	60.5	13.0	39.5
#4	4.4	8.6	95.3	42.3	18.2	57.7
#8	1.2	1.6	82.1	34.8	7.5	65.2
#16	1.7	0.8	66.3	28.4	6.3	71.6
#30	1.5	0.6	47.5	20.5	7.9	79.5
#50	1.3	0.6	18.8	8.5	12.0	91.5
#100	1.3	0.6	3.4	2.1	6.4	97.9
LBW	0.6	0.4	0.8	0.7	1.5	99.3

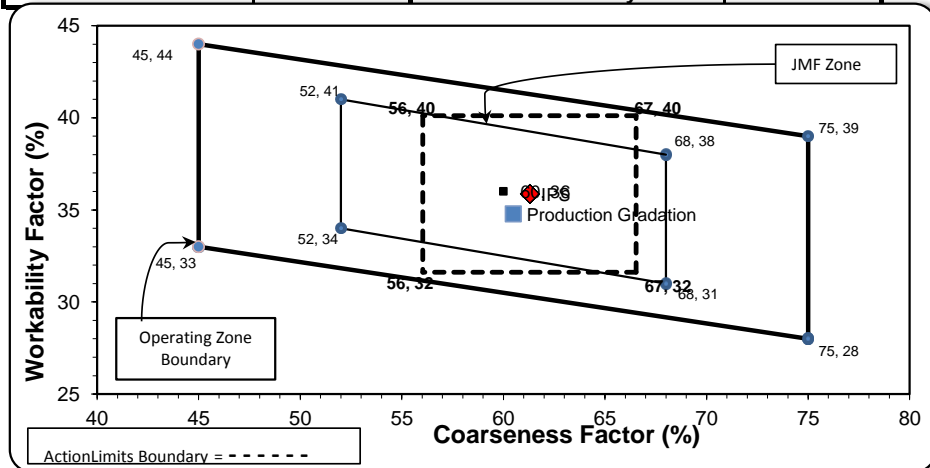


**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

\*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: **60**      Workability Factor: **35**



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"	89.2	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-32**

Sample Date: 10/30/17

Concrete Grade: **DM**

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

Dates Test Represents: 10/30/2017 to 11/5/2017

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1275	7.80	2.62	43.2
26A	71-47	Presque Isle	500	3.06	2.62	16.9
2NS	95-13	Smelter Bay	1175	7.11	2.65	39.8
<b>Total Wt</b>			<b>2950</b>	<b>17.96</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"	89.2	100.0	100.0	95.3	4.7	4.7
1/2"	35.1	97.4	100.0	71.5	23.8	28.5
3/8"	10.0	89.1	100.0	59.3	12.3	40.7
#4	7.2	23.0	96.0	45.2	14.0	54.8
#8	5.0	5.8	82.3	35.9	9.3	64.1
#16	3.6	2.8	66.4	28.5	7.4	71.5
#30	2.4	2.3	46.0	19.7	8.7	80.3
#50	1.6	2.1	20.5	9.2	10.5	90.8
#100	1.0	2.1	6.8	3.5	5.7	96.5
LBW	0.5	1.8	2.1	1.4	2.1	98.6

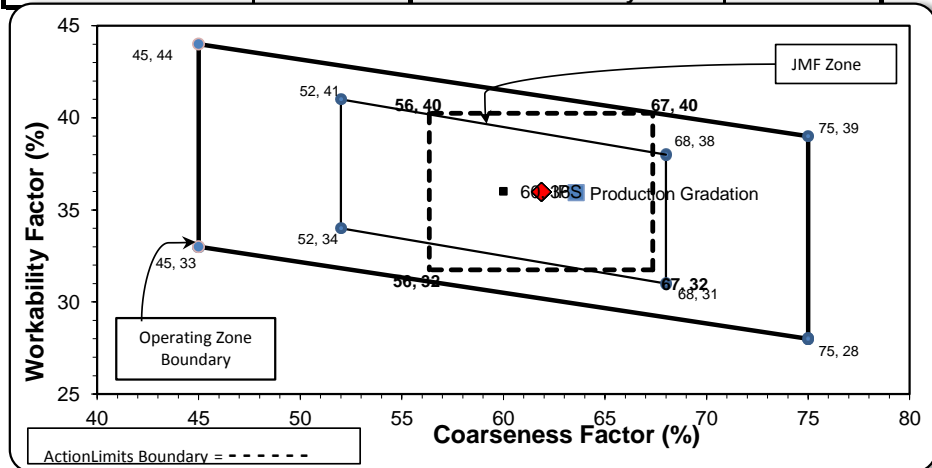


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Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

<b>Coarseness Factor:</b>	<b>64</b>	<b>Workability Factor:</b>	<b>36</b>
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1"	100.0	0.0	0.0
3/4"	95.0	5.0	5.0
1/2"	72.3	22.8	27.7
3/8"	60.4	11.8	39.6
#4	42.6	17.8	57.4
#8	36.0	6.6	64.0
#16	29.5	6.5	70.5
#30	20.3	9.2	79.7
#50	9.5	10.8	90.5
#100	3.4	6.1	96.6
LBW	1.3	2.1	98.7

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# Aggregate Optimization Chart

MIX ID'S: DDD0K7E7 and DDD0K7E9

Production Gradation Report

**PLANT #:** P-38

Sample Date: 10/30/17

Concrete Grade: **DM**

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

Dates Test Represents: 10/30/2017 to 11/5/2017

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

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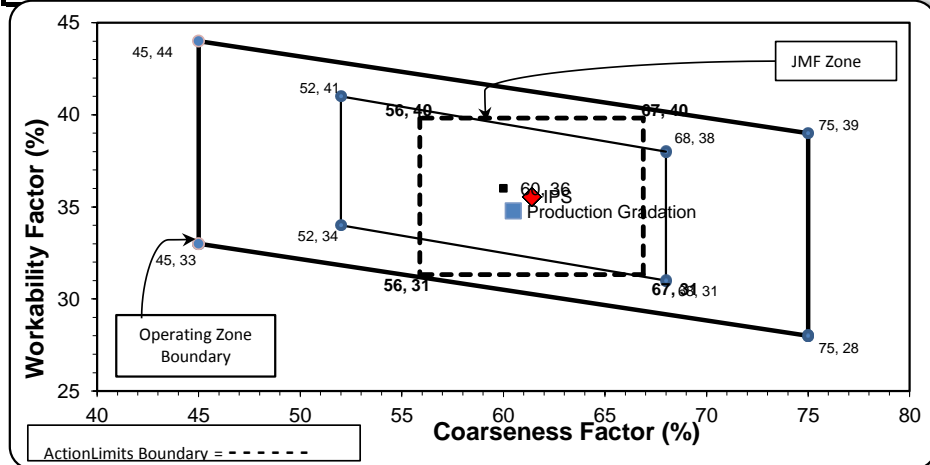


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1"	99.3	0.7	0.7
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#30	20.6	7.1	79.4
#50	8.7	11.8	91.3
#100	1.6	7.1	98.4
LBW	1.1	0.6	98.9

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