

Aggregate Optimization Chart

MIX ID'S: DDD0K7E7 and DDD0K7E9

Production Gradation Report

PLANT #: **P-103**

Sample Date: 5/29/17

Concrete Grade: DM

Contractor: _____

Dates Test Represents: 5/29/2017 to 6/4/2017

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1450	8.64	2.69	48.5
26A	58-003	Stoneco	340	2.03	2.69	11.4
2NS	81-93	Burmeister	1200	7.28	2.64	40.1
Total Wt			2990	17.95		100.0

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



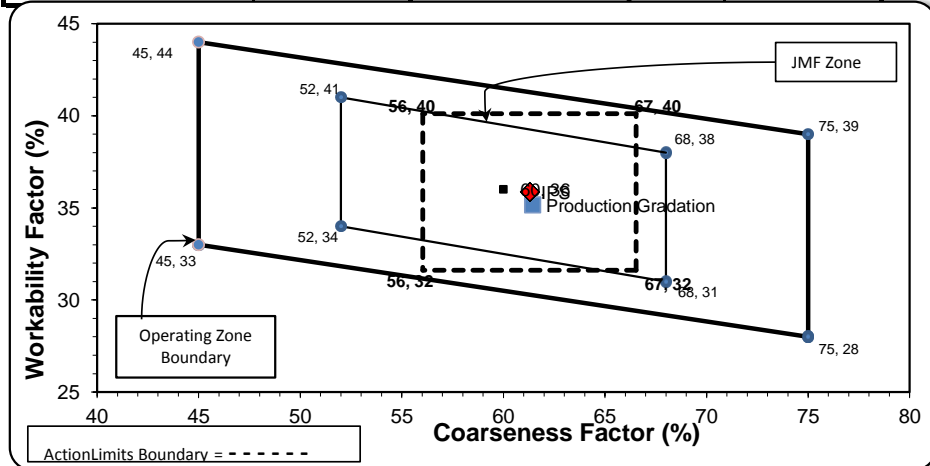
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	99.9	100.0	100.0	100.0	0.0	0.0
3/4"	82.8	100.0	100.0	91.7	8.3	8.3
1/2"	44.5	99.6	100.0	73.0	18.6	27.0
3/8"	21.4	84.8	100.0	60.2	12.9	39.8
#4	2.9	17.0	98.9	43.0	17.1	57.0
#8	0.8	4.0	85.5	35.2	7.9	64.8
#16	0.6	2.0	69.3	28.3	6.8	71.7
#30	0.6	1.6	48.4	19.9	8.4	80.1
#50	0.6	1.5	18.4	7.8	12.1	92.2
#100	0.4	1.4	3.1	1.6	6.2	98.4
LBW	0.4	1.2	0.9	0.7	0.9	99.3

*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: **61** Workability Factor: **35**



Initial Production Sample (IPS)

Coarseness Factor: 61		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"	99.3	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-36**

Sample Date: 5/29/17

Concrete Grade: DM

Contractor: _____

Dates Test Represents: 5/29/2017 to 6/4/2017

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1560	9.29	2.69	52.2
26A	71-47	Presque Isle	200	1.22	2.62	6.7
2NS	63-92	AA Grange Hall	1230	7.44	2.65	41.1
Total Wt			2990	17.96		100.0

<----- 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"	99.9	100.0	100.0	99.9	0.1	0.1
3/4"	82.8	100.0	100.0	91.0	8.9	9.0
1/2"	44.5	97.4	100.0	70.9	20.2	29.1
3/8"	21.4	88.2	100.0	58.2	12.7	41.8
#4	2.9	13.4	98.0	42.7	15.5	57.3
#8	0.8	2.7	86.2	36.1	6.7	63.9
#16	0.6	1.5	70.9	29.6	6.5	70.4
#30	0.6	1.4	50.8	21.3	8.3	78.7
#50	0.6	1.3	21.1	9.1	12.2	90.9
#100	0.4	1.2	2.9	1.5	7.6	98.5
LBW	0.4	1.0	0.3	0.4	1.1	99.6

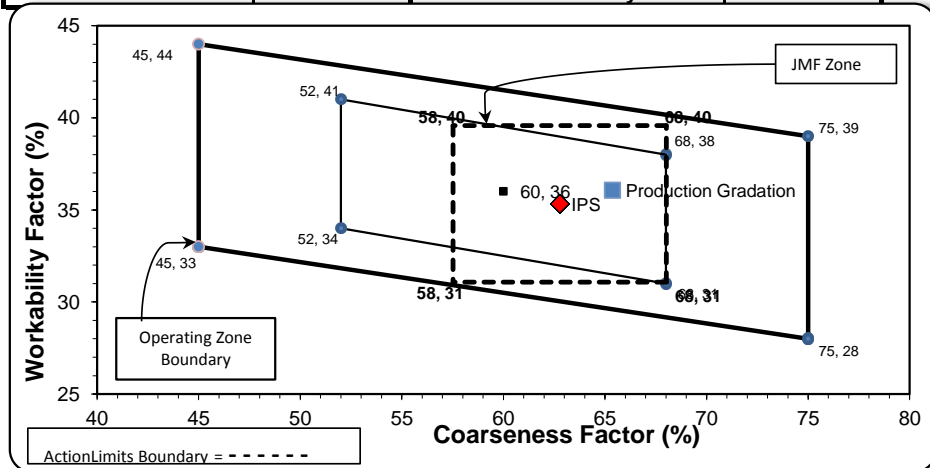
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Workability Factor:		35	
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2"	100.0	0.0	0.0
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1"	99.9	0.1	0.1
3/4"	89.1	10.8	10.9
1/2"	71.3	17.8	28.7
3/8"	59.4	11.9	40.6
#4	42.6	16.8	57.4
#8	35.3	7.3	64.7
#16	28.5	6.8	71.5
#30	20.9	7.6	79.1
#50	9.0	12.0	91.0
#100	1.7	7.3	98.3
LBW	0.7	1.0	99.3

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Approved By:

Aggregate Optimization Chart

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Production Gradation Report

PLANT #: **P-38**

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Concrete Grade: DM

Contractor: _____

Dates Test Represents: 5/29/2017 to 6/4/2017

MDOT No.: _____

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3/4"	82.8	100.0	100.0	91.7	8.3	8.3
1/2"	44.5	99.6	100.0	73.0	18.6	27.0
3/8"	21.4	84.8	100.0	60.2	12.9	39.8
#4	2.9	17.0	98.9	43.0	17.1	57.0
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#16	0.6	2.0	69.3	28.3	6.8	71.7
#30	0.6	1.6	48.4	19.9	8.4	80.1
#50	0.6	1.5	18.4	7.8	12.1	92.2
#100	0.4	1.4	3.1	1.6	6.2	98.4
LBW	0.4	1.2	0.9	0.7	0.9	99.3

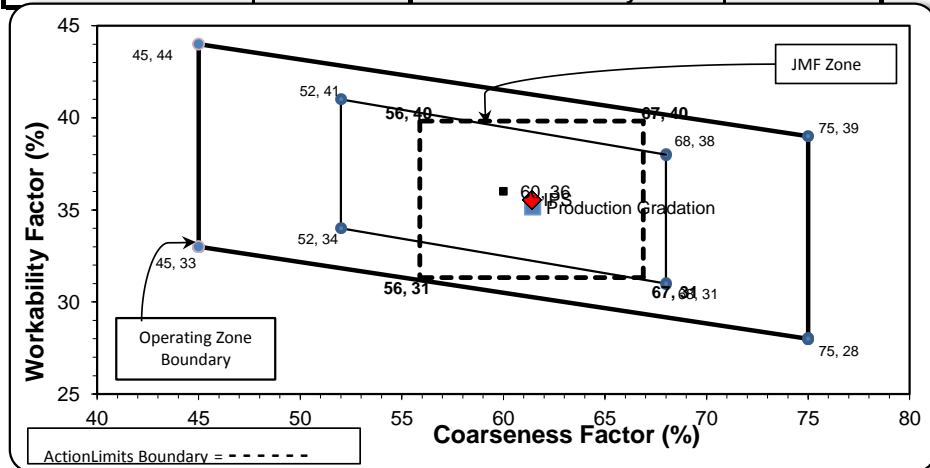
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#30	20.6	7.1	79.4
#50	8.7	11.8	91.3
#100	1.6	7.1	98.4
LBW	1.1	0.6	98.9

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