

Aggregate Optimization Chart

MIX ID'S: DDD0K7E7 and DDD0K7E9

Production Gradation Report

PLANT #: **P-103**

Sample Date: 1/23/17

Concrete Grade: **DM**

Contractor: _____

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

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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
Total Wt			2990	17.95		100.0

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



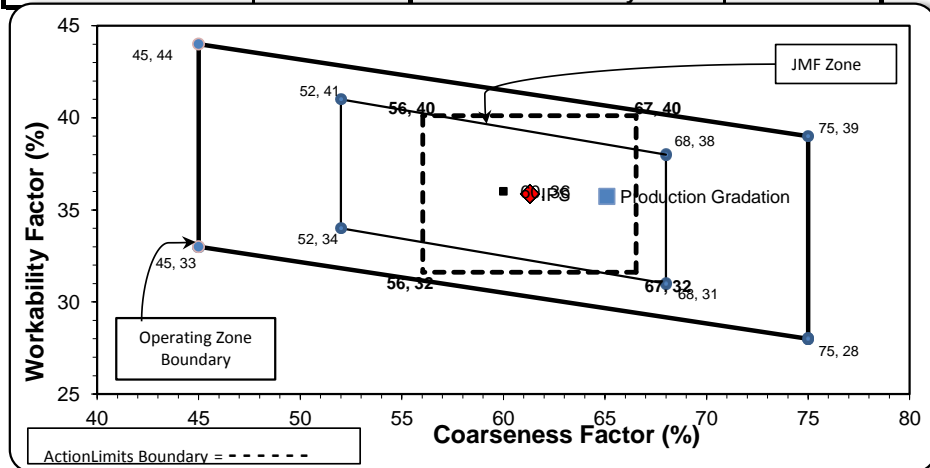
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	99.0	100.0	100.0	99.5	0.5	0.5
3/4"	73.9	100.0	100.0	88.2	11.3	11.8
1/2"	37.9	99.8	100.0	71.9	16.3	28.1
3/8"	10.6	89.5	100.0	58.2	13.8	41.8
#4	1.3	13.3	98.6	42.7	15.5	57.3
#8	0.8	2.8	85.7	35.7	7.0	64.3
#16	0.7	1.5	70.4	29.3	6.5	70.7
#30	0.7	1.3	51.5	21.5	7.7	78.5
#50	0.6	1.2	20.2	8.7	12.8	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

Coarseness Factor:	65	Workability Factor:	36
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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: 1/23/17

Concrete Grade: **DM**

Contractor: _____

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

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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
Total Wt			2990	17.95		100.0

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



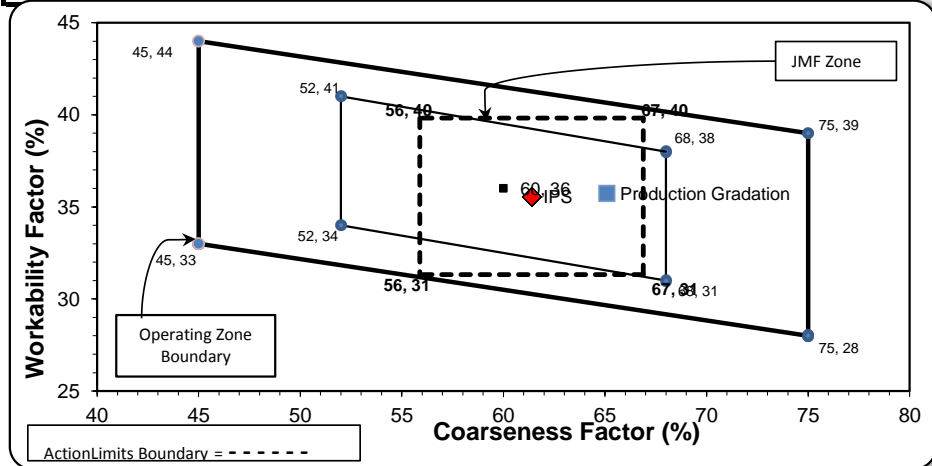
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	99.0	100.0	100.0	99.5	0.5	0.5
3/4"	73.9	100.0	100.0	88.2	11.3	11.8
1/2"	37.9	99.8	100.0	71.9	16.3	28.1
3/8"	10.6	89.5	100.0	58.2	13.8	41.8
#4	1.3	13.3	98.6	42.7	15.5	57.3
#8	0.8	2.8	85.7	35.7	7.0	64.3
#16	0.7	1.5	70.4	29.3	6.5	70.7
#30	0.7	1.3	51.5	21.5	7.7	78.5
#50	0.6	1.2	20.2	8.7	12.8	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

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



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"	89.1	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: