

Aggregate Optimization Chart

MIX ID'S: DDD0K7E7 and DDD0K7E9

Production Gradation Report

PLANT #: **P-36**

Sample Date: 11/28/16

Concrete Grade: **DM**

Contractor: _____

Dates Test Represents: 11/28/2016 to 12/4/2016

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1480	8.82	2.69	49.6
26A	71-47	Presque Isle	305	1.87	2.62	10.2
2NS	63-92	AA Grange Hall	1200	7.26	2.65	40.2
Total Wt			2985	17.94		100.0

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



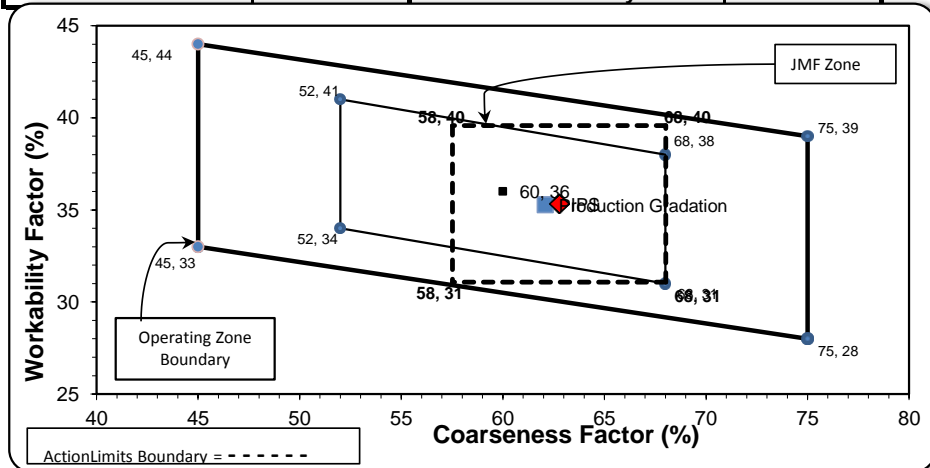
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	99.7	100.0	100.0	99.9	0.1	0.1
3/4"	85.1	99.6	100.0	92.6	7.3	7.4
1/2"	49.8	96.4	100.0	74.7	17.8	25.3
3/8"	21.7	86.6	100.0	59.8	14.9	40.2
#4	2.8	18.2	97.4	42.4	17.4	57.6
#8	1.2	5.3	84.9	35.3	7.1	64.7
#16	0.6	3.0	68.0	27.9	7.3	72.1
#30	0.5	2.5	46.7	19.3	8.7	80.7
#50	0.5	2.3	17.3	7.4	11.8	92.6
#100	0.5	2.1	2.2	1.3	6.1	98.7
LBW	0.7	1.8	0.3	0.7	0.7	99.3

*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:	62	Workability Factor:	35
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Initial Production Sample (IPS)

Coarseness Factor:	63
Workability Factor:	35

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.9	0.1	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

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: 11/28/16

Concrete Grade: **DM**

Contractor: _____

Dates Test Represents: 11/28/2016 to 12/4/2016

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1470	8.76	2.69	49.2
26A	58-003	Stoneco	300	1.79	2.69	10.0
2NS	81-93	Burmeister	1220	7.41	2.64	40.8
Total Wt			2990	17.95		100.0

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



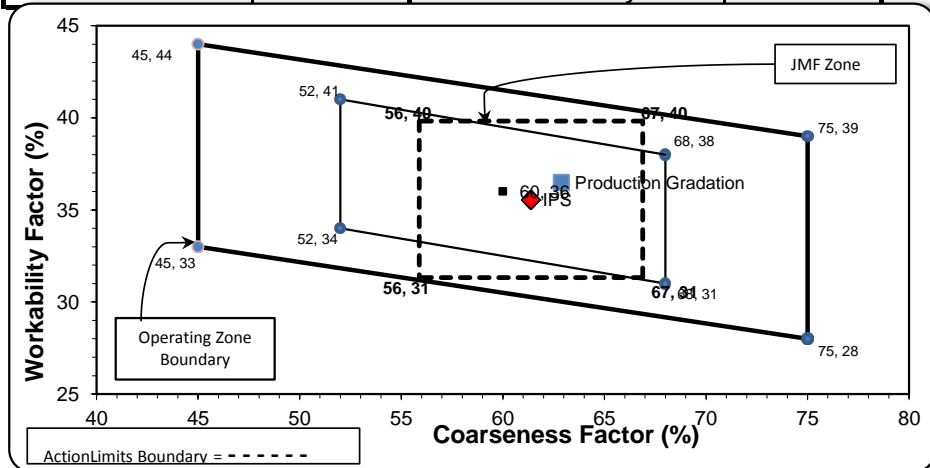
Superior Materials, LLC
 30701 W. 10 Mile Rd.
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Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	99.7	100.0	100.0	99.9	0.1	0.1
3/4"	85.1	100.0	100.0	92.7	7.2	7.3
1/2"	49.8	99.2	100.0	75.2	17.4	24.8
3/8"	21.7	85.6	100.0	60.1	15.2	39.9
#4	2.8	14.1	99.1	43.2	16.8	56.8
#8	1.2	2.8	87.3	36.5	6.7	63.5
#16	0.6	1.2	72.6	30.0	6.5	70.0
#30	0.5	0.9	53.5	22.2	7.9	77.8
#50	0.5	0.8	21.8	9.2	12.9	90.8
#100	0.5	0.8	4.5	2.2	7.1	97.8
LBW	0.7	0.5	2.0	1.2	1.0	98.8

*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:	63	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"	89.1	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

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