

Aggregate Optimization Chart

MIX ID'S: DDS257E7, DDS257E5 and DDS257E8

Production Gradation Report

PLANT #: **P-103**

Sample Date: 7/17/17

Concrete Grade: **S2M**

Contractor: _____

Dates Test Represents: 7/17/2017 to 7/23/2017

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1655	9.86	2.69	52.5
26A	58-003	Stoneco	200	1.19	2.69	6.3
2NS	81-93	Burmeister	1300	7.89	2.64	41.2
Total Wt			3155	18.94		100.0

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



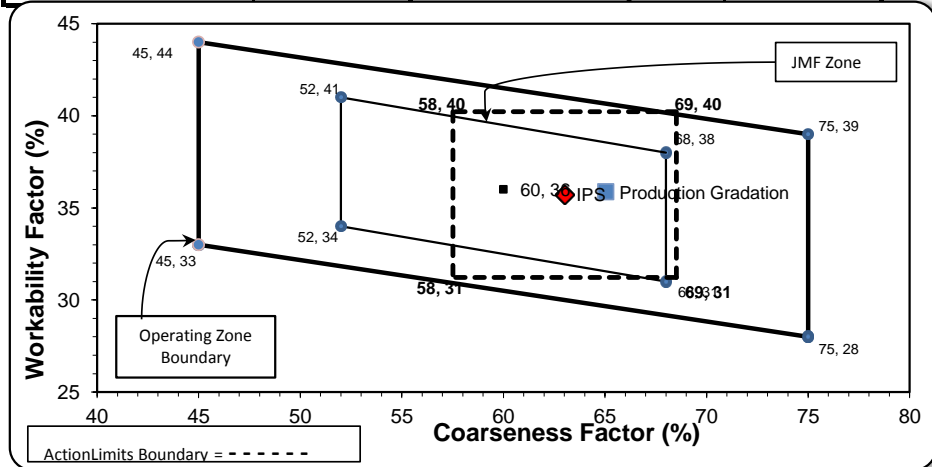
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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	99.8	0.2	0.2
3/4"	81.6	100.0	100.0	90.3	9.5	9.7
1/2"	43.3	99.2	100.0	70.2	20.1	29.8
3/8"	22.4	84.2	100.0	58.3	11.9	41.7
#4	3.4	18.4	98.6	43.6	14.7	56.4
#8	1.4	4.5	84.6	35.9	7.7	64.1
#16	1.2	2.3	68.6	29.0	6.8	71.0
#30	1.1	1.9	48.9	20.8	8.2	79.2
#50	1.0	1.6	19.4	8.6	12.2	91.4
#100	0.9	1.5	3.9	2.2	6.4	97.8
LBW	0.8	1.2	1.2	1.0	1.2	99.0

*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:	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"	99.9	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: 7/17/17

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

Dates Test Represents: 7/17/2017 to 7/23/2017

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1580	9.41	2.69	52.8
26A	71-47	Presque Isle	200	1.22	2.62	6.7
2NS	63-92	AA Grange Hall	1210	7.32	2.65	40.5
Total Wt			2990	17.95		100.0

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



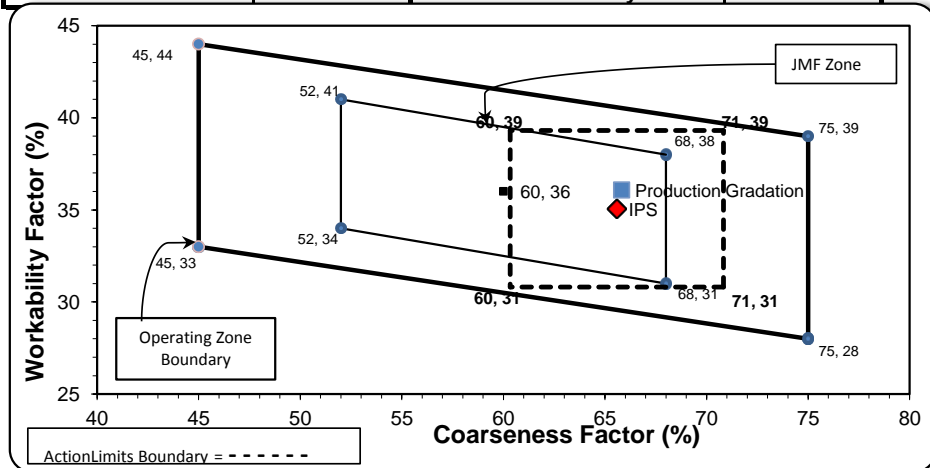
Superior Materials, LLC
 30701 W. 10 Mile Rd.
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Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	99.7	100.0	100.0	99.8	0.2	0.2
3/4"	81.6	100.0	100.0	90.3	9.6	9.7
1/2"	43.3	97.0	100.0	69.8	20.4	30.2
3/8"	22.4	84.0	100.0	57.9	11.9	42.1
#4	3.4	13.1	98.6	42.6	15.3	57.4
#8	1.4	3.2	86.8	36.1	6.5	63.9
#16	1.2	2.1	69.9	29.1	7.0	70.9
#30	1.1	1.9	49.2	20.6	8.4	79.4
#50	1.0	1.8	18.3	8.1	12.6	91.9
#100	0.9	1.8	2.7	1.7	6.4	98.3
LBW	0.8	1.6	0.3	0.7	1.0	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.
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Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	66	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"	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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 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

MIX ID'S: DDS257E7, DDS257E5 and DDS257E8

Production Gradation Report

PLANT #: **P-38**

Sample Date: 7/17/17

Concrete Grade: **S2M**

Contractor: _____

Dates Test Represents: 7/17/2017 to 7/23/2017

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
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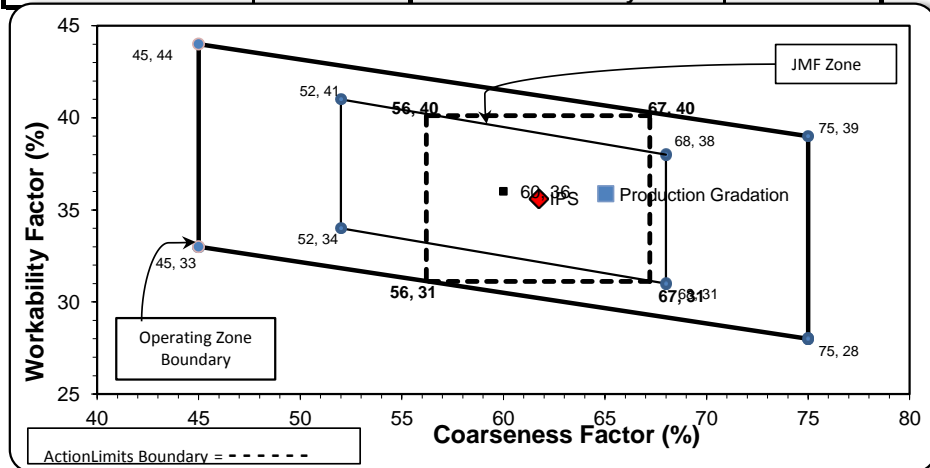
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1"	99.7	100.0	100.0	99.8	0.2	0.2
3/4"	81.6	100.0	100.0	90.3	9.5	9.7
1/2"	43.3	99.2	100.0	70.2	20.1	29.8
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#30	1.1	1.9	48.9	20.8	8.2	79.2
#50	1.0	1.6	19.4	8.6	12.2	91.4
#100	0.9	1.5	3.9	2.2	6.4	97.8
LBW	0.8	1.2	1.2	1.0	1.2	99.0

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

Coarseness Factor:	62		
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"	99.2	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

PREPARED BY:
 SM, LLC Technical Service

Approved By: