

Aggregate Optimization Chart

MIX ID'S: DDS257E7, DDS257E5 and DDS257E8

Production Gradation Report

PLANT #: **P-103**

Sample Date: 10/30/17

Concrete Grade: **S2M**

Contractor: _____

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

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1700	10.13	2.69	53.9
26A	58-003	Stoneco	155	0.92	2.69	4.9
2NS	81-93	Burmeister	1300	7.89	2.64	41.2
Total Wt			3155	18.94		100.0

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



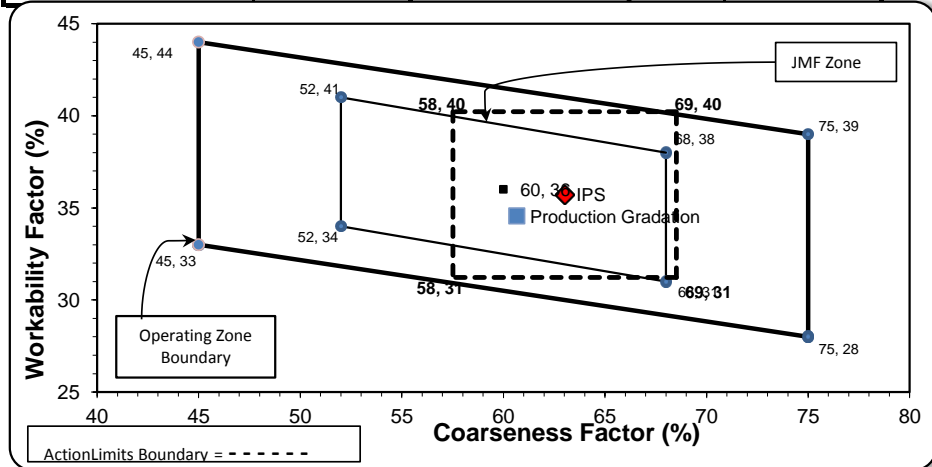
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	99.8	100.0	100.0	99.9	0.1	0.1
3/4"	86.7	100.0	100.0	92.8	7.1	7.2
1/2"	50.5	99.8	100.0	73.3	19.5	26.7
3/8"	28.2	79.4	100.0	60.3	13.0	39.7
#4	4.4	8.6	95.3	42.1	18.2	57.9
#8	1.2	1.6	82.1	34.6	7.5	65.4
#16	1.7	0.8	66.3	28.3	6.3	71.7
#30	1.5	0.6	47.5	20.4	7.9	79.6
#50	1.3	0.6	18.8	8.5	11.9	91.5
#100	1.3	0.6	3.4	2.1	6.3	97.9
LBW	0.6	0.4	0.8	0.7	1.5	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
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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"	99.2	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: DDS257E7 and DDS257E8

Production Gradation Report

PLANT #: **P-32**

Sample Date: 10/30/17

Concrete Grade: **S2M**

Contractor: _____

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

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1330	8.14	2.62	42.8
26A	71-47	Presque Isle	555	3.39	2.62	17.8
2NS	95-13	Smelter Bay	1225	7.41	2.65	39.4
Total Wt			3110	18.94		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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	89.2	100.0	100.0	95.4	4.6	4.6
1/2"	35.1	97.4	100.0	71.8	23.6	28.2
3/8"	10.0	89.1	100.0	59.6	12.2	40.4
#4	7.2	23.0	96.0	45.0	14.6	55.0
#8	5.0	5.8	82.3	35.6	9.4	64.4
#16	3.6	2.8	66.4	28.2	7.4	71.8
#30	2.4	2.3	46.0	19.6	8.6	80.4
#50	1.6	2.1	20.5	9.1	10.4	90.9
#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

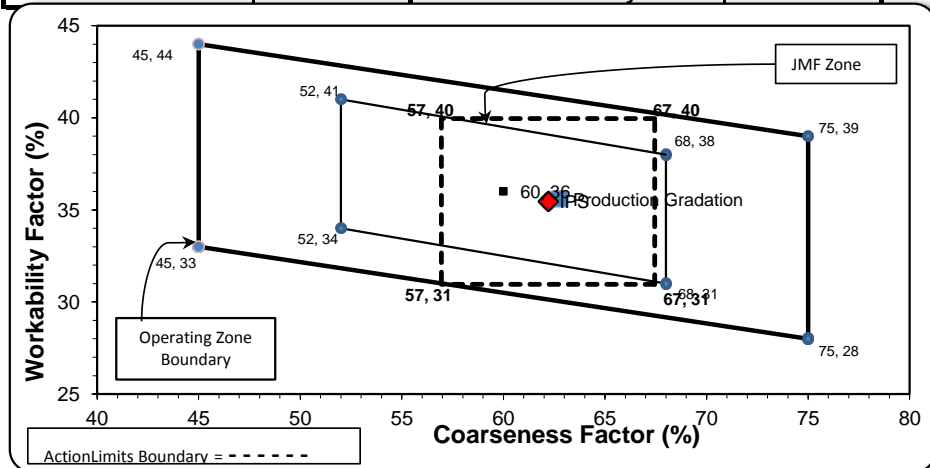
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Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 63 **Workability Factor:** 36



Initial Production Sample (IPS)

Coarseness Factor:		62	
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"	100.0	0.0	0.0
3/4"	94.0	6.0	6.0
1/2"	70.2	23.7	29.8
3/8"	59.9	10.4	40.1
#4	42.7	17.2	57.3
#8	35.5	7.2	64.5
#16	28.4	7.0	71.6
#30	19.2	9.2	80.8
#50	8.9	10.3	91.1
#100	3.1	5.9	96.9
LBW	1.4	1.7	98.6

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Approved By:

Aggregate Optimization Chart

MIX ID'S: DDS257E7, DDS257E5 and DDS257E8

Production Gradation Report

PLANT #: **P-38**

Sample Date: 10/30/17

Concrete Grade: **S2M**

Contractor: _____

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

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
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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	92.8	7.1	7.2
1/2"	50.5	99.8	100.0	73.3	19.5	26.7
3/8"	28.2	79.4	100.0	60.3	13.0	39.7
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#8	1.2	1.6	82.1	34.6	7.5	65.4
#16	1.7	0.8	66.3	28.3	6.3	71.7
#30	1.5	0.6	47.5	20.4	7.9	79.6
#50	1.3	0.6	18.8	8.5	11.9	91.5
#100	1.3	0.6	3.4	2.1	6.3	97.9
LBW	0.6	0.4	0.8	0.7	1.5	99.3

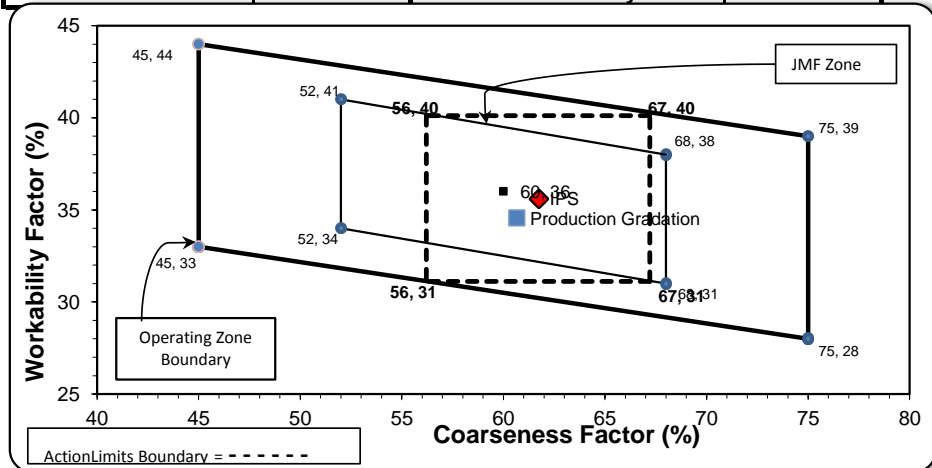


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Coarseness Factor:	62		
Workability Factor:	36		
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.2	0.8	0.8
3/4"	91.1	8.1	8.9
1/2"	72.0	19.1	28.0
3/8"	60.3	11.7	39.7
#4	43.4	16.9	56.6
#8	35.6	7.8	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

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