

Aggregate Optimization Chart

MIX ID'S: DDS257E7 and DDS257E8

Production Gradation Report

PLANT #: **P-103**

Sample Date: 5/22/17

Concrete Grade: **S2M**

Contractor: _____

Dates Test Represents: 5/22/2017 to 5/28/2017

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1650	9.83	2.69	52.3
26A	58-003	Stoneco	215	1.28	2.69	6.8
2NS	81-93	Burmeister	1290	7.83	2.64	40.9
Total Wt			3155	18.94		100.0

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



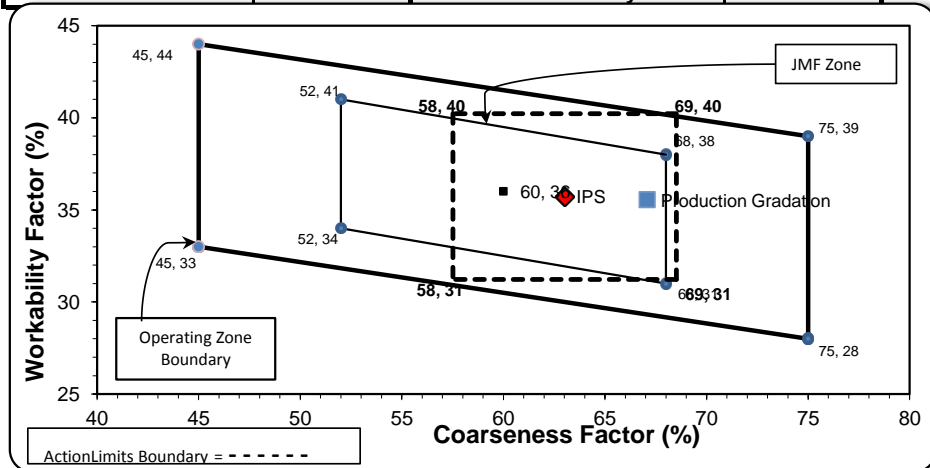
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	82.2	100.0	100.0	90.7	9.2	9.3
1/2"	38.3	99.6	100.0	67.7	23.0	32.3
3/8"	19.3	84.8	100.0	56.8	10.9	43.2
#4	2.1	17.0	99.0	42.7	14.0	57.3
#8	0.6	4.0	85.5	35.5	7.2	64.5
#16	0.5	2.0	69.8	28.9	6.6	71.1
#30	0.4	1.6	49.3	20.5	8.5	79.5
#50	0.4	1.5	18.4	7.8	12.6	92.2
#100	0.3	1.4	3.4	1.6	6.2	98.4
LBW	0.3	1.2	1.4	0.8	0.8	99.2

*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:	67	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: 5/22/17

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

Contractor: _____

Dates Test Represents: 5/22/2017 to 5/28/2017

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	150	0.92	2.62	5.0
2NS	63-92	AA Grange Hall	1260	7.62	2.65	42.1
Total Wt			2990	17.95		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"	99.8	100.0	100.0	99.9	0.1	0.1
3/4"	82.2	100.0	100.0	90.6	9.3	9.4
1/2"	38.3	97.7	100.0	67.3	23.3	32.7
3/8"	19.3	86.7	100.0	56.7	10.6	43.3
#4	2.1	11.5	98.1	43.0	13.7	57.0
#8	0.6	2.4	86.3	36.8	6.2	63.2
#16	0.5	1.6	70.8	30.2	6.6	69.8
#30	0.4	1.4	50.2	21.4	8.7	78.6
#50	0.4	1.4	19.7	8.6	12.9	91.4
#100	0.3	1.3	2.6	1.3	7.3	98.7
LBW	0.3	1.2	0.3	0.3	1.0	99.7

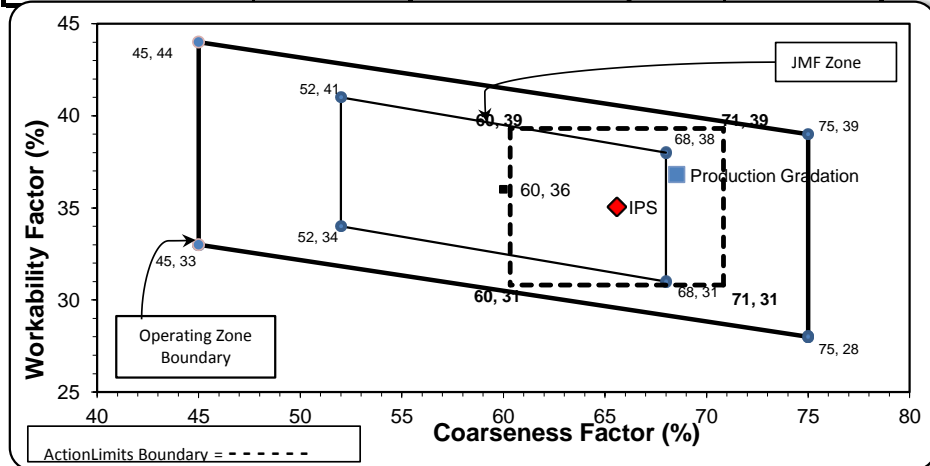


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Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	69	Workability Factor:	37
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Initial Production Sample (IPS)

Coarseness Factor:	66		
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"	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 and DDS257E8

Production Gradation Report

PLANT #: **P-38**

Sample Date: 5/22/17

Concrete Grade: **S2M**

Contractor: _____

Dates Test Represents: 5/22/2017 to 5/28/2017

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
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Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
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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"	82.2	100.0	100.0	90.7	9.2	9.3
1/2"	38.3	99.6	100.0	67.7	23.0	32.3
3/8"	19.3	84.8	100.0	56.8	10.9	43.2
#4	2.1	17.0	99.0	42.7	14.0	57.3
#8	0.6	4.0	85.5	35.5	7.2	64.5
#16	0.5	2.0	69.8	28.9	6.6	71.1
#30	0.4	1.6	49.3	20.5	8.5	79.5
#50	0.4	1.5	18.4	7.8	12.6	92.2
#100	0.3	1.4	3.4	1.6	6.2	98.4
LBW	0.3	1.2	1.4	0.8	0.8	99.2

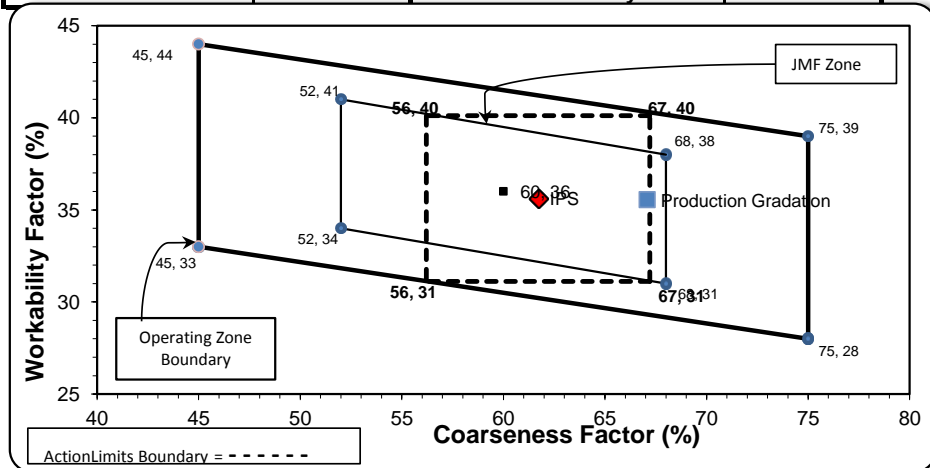


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Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 67 **Workability Factor: 36**



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: