

Aggregate Optimization Chart

MIX ID'S: DDS257E7, DDS257E5 and DDS257E8

Production Gradation Report

PLANT #: **P-103**

Sample Date: 11/6/17

Concrete Grade: **S2M**

Contractor: _____

Dates Test Represents: 11/6/2017 to 11/12/2017

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1500	8.94	2.69	47.5
26A	58-003	Stoneco	325	1.94	2.69	10.3
2NS	81-93	Burmeister	1330	8.07	2.64	42.2
Total Wt			3155	18.95		100.0

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



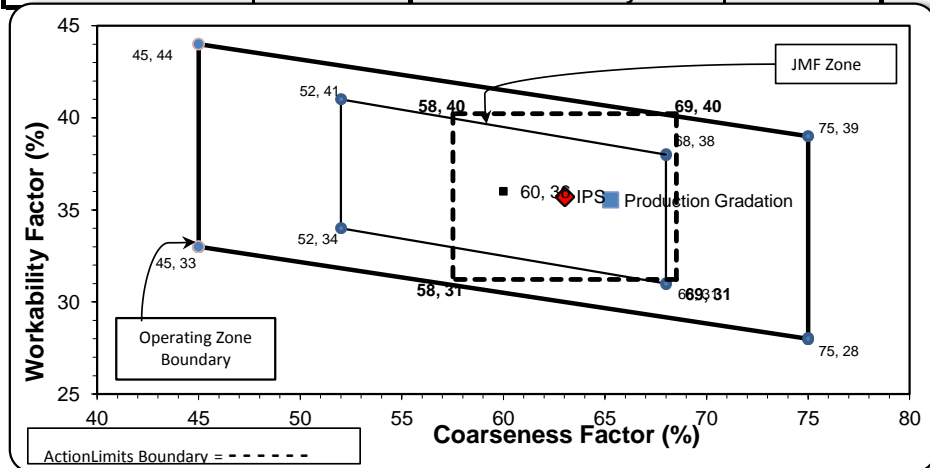
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	99.8	100.0	100.0	99.9	0.1	0.1
3/4"	80.8	100.0	100.0	90.9	9.0	9.1
1/2"	39.6	99.6	100.0	71.2	19.6	28.8
3/8"	15.7	80.6	100.0	57.9	13.3	42.1
#4	1.9	8.4	95.9	42.2	15.7	57.8
#8	0.8	2.5	82.8	35.5	6.7	64.5
#16	0.6	0.8	68.0	29.0	6.5	71.0
#30	0.6	0.6	49.8	21.3	7.7	78.7
#50	0.6	0.5	20.6	9.0	12.3	91.0
#100	0.6	0.5	4.3	2.1	6.9	97.9
LBW	0.5	0.4	1.0	0.7	1.4	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:	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"	99.2	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: 11/6/17

Concrete Grade: **S2M**

Contractor: _____

Dates Test Represents: 11/6/2017 to 11/12/2017

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1630	9.97	2.62	52.4
26A	71-47	Presque Isle	205	1.25	2.62	6.6
2NS	95-13	Smelter Bay	1275	7.71	2.65	41.0
Total Wt			3110	18.93		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"	91.2	100.0	100.0	95.4	4.6	4.6
1/2"	49.2	97.3	100.0	73.2	22.2	26.8
3/8"	24.9	84.8	100.0	59.6	13.6	40.4
#4	2.9	19.6	96.6	42.4	17.2	57.6
#8	1.7	4.4	82.7	35.1	7.3	64.9
#16	1.5	2.2	66.5	28.2	6.9	71.8
#30	1.4	1.7	46.3	19.8	8.4	80.2
#50	1.4	1.6	20.5	9.2	10.6	90.8
#100	1.3	1.5	6.6	3.5	5.8	96.5
LBW	1.1	1.3	1.6	1.3	2.2	98.7

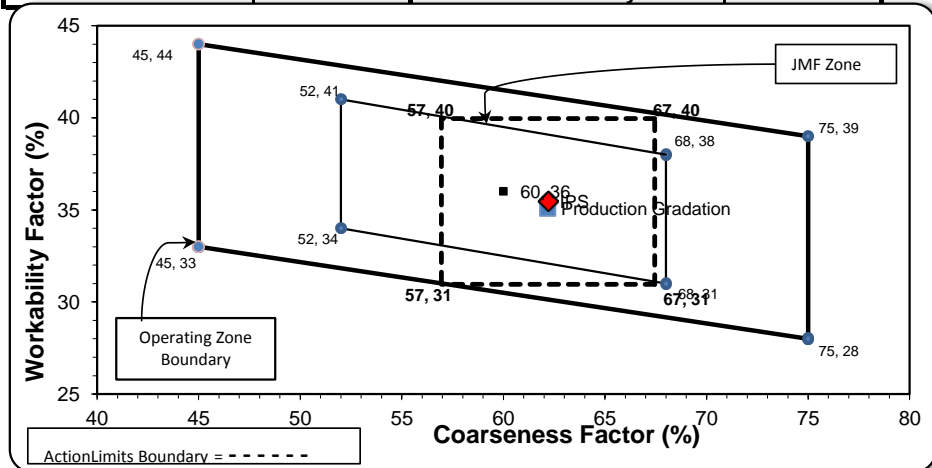


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Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 62 **Workability Factor: 35**



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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Aggregate Optimization Chart

MIX ID'S: DDS257E7, DDS257E5 and DDS257E8

Production Gradation Report

PLANT #: **P-38**

Sample Date: 11/6/17

Concrete Grade: **S2M**

Contractor: _____

Dates Test Represents: 11/6/2017 to 11/12/2017

MDOT No.: _____

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1"	99.8	100.0	100.0	99.9	0.1	0.1
3/4"	80.8	100.0	100.0	90.9	9.0	9.1
1/2"	39.6	99.6	100.0	71.2	19.6	28.8
3/8"	15.7	80.6	100.0	57.9	13.3	42.1
#4	1.9	8.4	95.9	42.2	15.7	57.8
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#50	0.6	0.5	20.6	9.0	12.3	91.0
#100	0.6	0.5	4.3	2.1	6.9	97.9
LBW	0.5	0.4	1.0	0.7	1.4	99.3

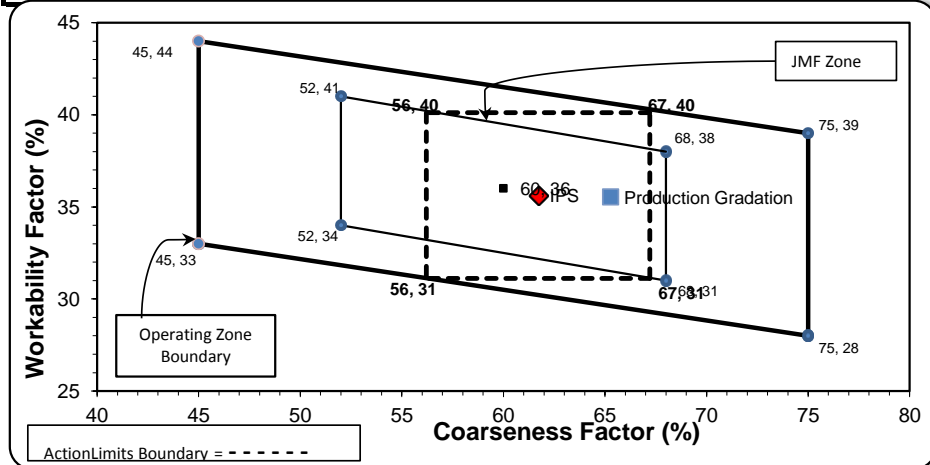


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Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

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



Initial Production Sample (IPS)

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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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