

Aggregate Optimization Chart

MIX ID'S: DDS257E7 and DDS257E8

Production Gradation Report

PLANT #: **P-102**

Sample Date: 8/27/18

Concrete Grade: **S2M**

Contractor: _____

Dates Test Represents: 8/28/2018 through 9/3/2018

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	400	2.38	2.69	12.7
2NS	38-046	Chelsea	1260	7.62	2.65	39.9
Total Wt			3160	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"	99.9	100.0	100.0	100.0	0.0	0.0
3/4"	79.6	100.0	100.0	90.3	9.6	9.7
1/2"	36.2	99.8	100.0	69.7	20.6	30.3
3/8"	16.9	88.2	100.0	59.1	10.6	40.9
#4	2.1	18.8	100.0	43.3	15.8	56.8
#8	1.1	5.2	88.0	36.3	7.0	63.7
#16	1.1	2.5	64.0	26.4	9.9	73.6
#30	0.8	1.8	42.0	17.4	9.0	82.6
#50	0.7	1.6	24.0	10.1	7.3	89.9
#100	0.6	1.6	6.0	2.9	7.2	97.1
LBW	0.5	1.4	0.9	0.8	2.1	99.2

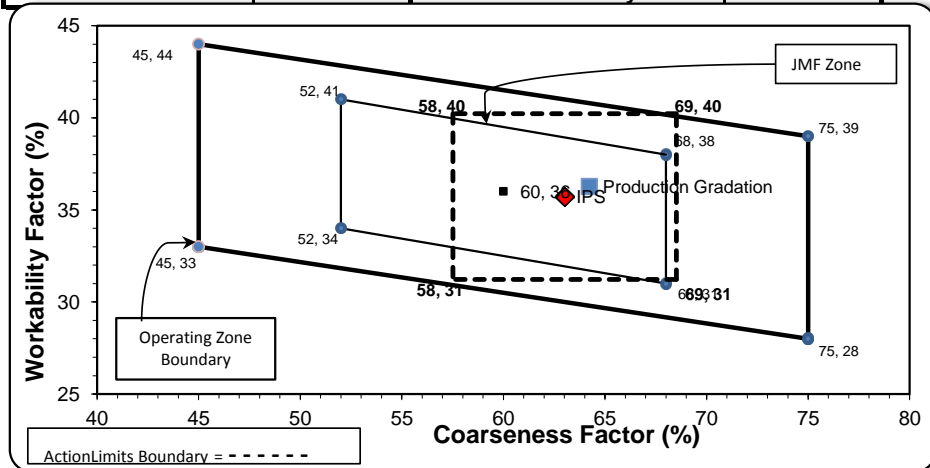
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.



Superior Materials, LLC
 30701 W. 10 Mile Rd.
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Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 64 **Workability Factor: 36**



Initial Production Sample (IPS)

Coarseness Factor: 63		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"	99.9	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: DDS257E7 and DDS257E8

Production Gradation Report

PLANT #: **P-32**

Sample Date: 8/27/18

Concrete Grade: **S2M**

Contractor: _____

Dates Test Represents: 8/28/2018 through 9/3/2018

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	200	1.22	2.62	6.4
2NS	95-13	Smelter Bay	1280	7.74	2.65	41.2
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"	79.2	100.0	100.0	89.1	10.9	10.9
1/2"	45.5	97.4	100.0	71.3	17.8	28.7
3/8"	25.8	87.5	100.0	60.3	11.0	39.7
#4	3.6	23.6	97.1	43.4	16.9	56.6
#8	1.6	7.8	83.6	35.7	7.6	64.3
#16	1.4	4.1	65.5	28.0	7.8	72.0
#30	1.3	3.2	43.5	18.8	9.2	81.2
#50	1.2	2.8	17.0	7.8	11.0	92.2
#100	1.2	2.5	3.6	2.3	5.5	97.7
LBW	1.2	1.9	0.9	1.1	1.1	98.9

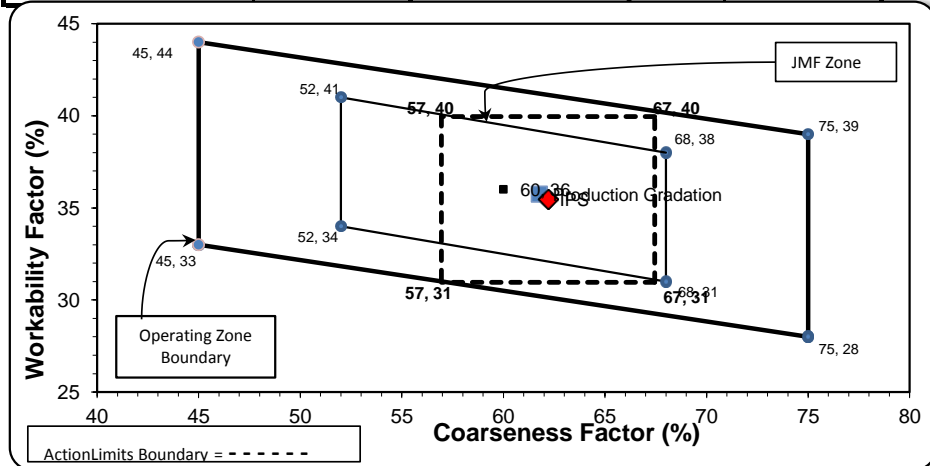


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*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must 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: 62 **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

PREPARED BY:
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Approved By:

Aggregate Optimization Chart

MIX ID'S: DDS257E7 and DDS257E8

Production Gradation Report

PLANT #: **P-36**

Sample Date: 8/27/18

Concrete Grade: **S2M**

Contractor: _____

Dates Test Represents: 8/28/2018 through 9/3/2018

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	200	1.22	2.62	6.4
2NS	63-92	AA Grange Hall	1280	7.74	2.65	41.2
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"	98.5	100.0	100.0	99.2	0.8	0.8
3/4"	84.4	100.0	100.0	91.8	7.4	8.2
1/2"	45.3	97.4	100.0	71.2	20.7	28.8
3/8"	24.1	87.5	100.0	59.4	11.7	40.6
#4	3.1	23.6	97.0	43.1	16.4	56.9
#8	1.5	7.8	83.0	35.4	7.6	64.6
#16	1.3	4.1	66.8	28.4	7.0	71.6
#30	1.2	3.2	48.2	20.7	7.8	79.3
#50	1.2	2.8	23.4	10.4	10.2	89.6
#100	1.1	2.5	3.9	2.3	8.1	97.7
LBW	0.9	1.9	0.4	0.8	1.6	99.2

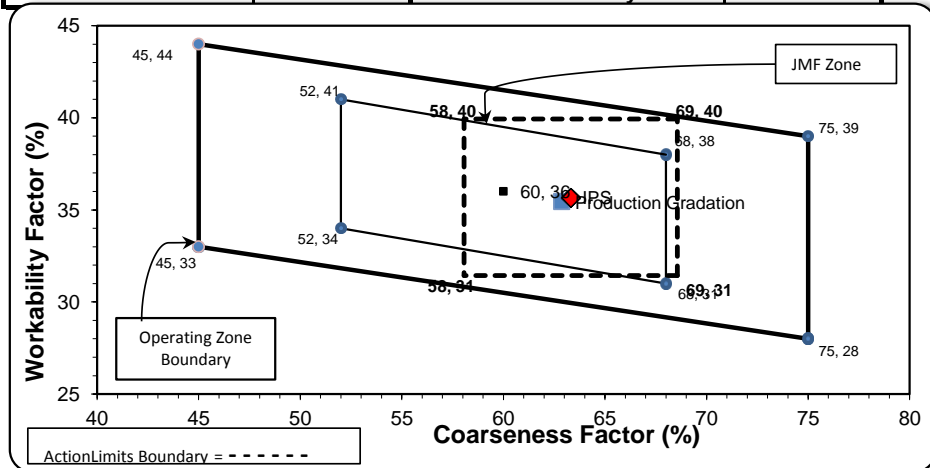


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*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must 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: **63** Workability Factor: **35**



Initial Production Sample (IPS)

Coarseness Factor: 63		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"	100.0	0.0	0.0
3/4"	95.6	4.4	4.4
1/2"	73.1	22.6	26.9
3/8"	59.3	13.8	40.7
#4	42.8	16.5	57.2
#8	35.7	7.1	64.3
#16	28.9	6.8	71.1
#30	20.7	8.2	79.3
#50	9.9	10.8	90.1
#100	2.1	7.8	97.9
LBW	0.9	1.2	99.1

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

MIX ID'S: DDS257E7 and DDS257E8

Production Gradation Report

PLANT #: P-02

Sample Date: 8/27/18

Concrete Grade: S2M

Contractor: _____

Dates Test Represents: 8/28/2018 through 9/3/2018

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	200	1.22	2.62	6.4
2NS	63-92	AA Grange Hall	1280	7.74	2.65	41.2
Total Wt			3110	18.93		100.0

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



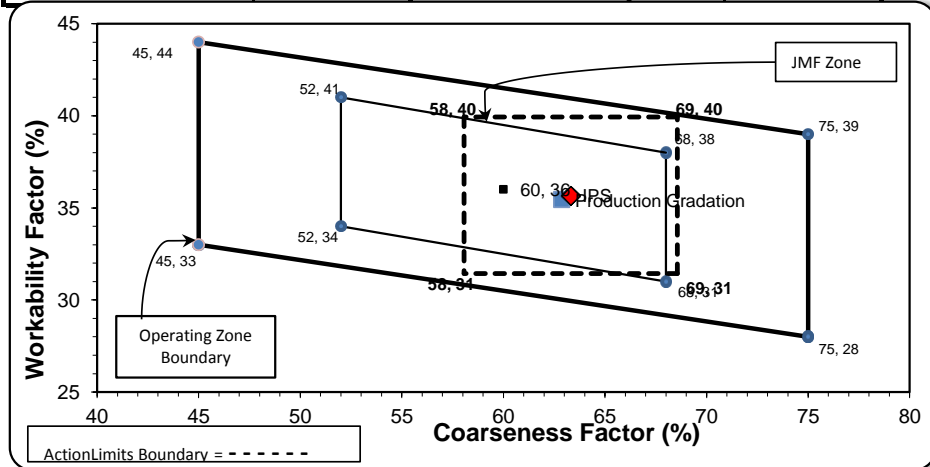
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Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	98.5	100.0	100.0	99.2	0.8	0.8
3/4"	84.4	100.0	100.0	91.8	7.4	8.2
1/2"	45.3	97.4	100.0	71.2	20.7	28.8
3/8"	24.1	87.5	100.0	59.4	11.7	40.6
#4	3.1	23.6	97.0	43.1	16.4	56.9
#8	1.5	7.8	83.0	35.4	7.6	64.6
#16	1.3	4.1	66.8	28.4	7.0	71.6
#30	1.2	3.2	48.2	20.7	7.8	79.3
#50	1.2	2.8	23.4	10.4	10.2	89.6
#100	1.1	2.5	3.9	2.3	8.1	97.7
LBW	0.9	1.9	0.4	0.8	1.6	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:	63	Workability Factor:	35
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Initial Production Sample (IPS)

Coarseness Factor:	63		
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"	100.0	0.0	0.0
3/4"	95.6	4.4	4.4
1/2"	73.1	22.6	26.9
3/8"	59.3	13.8	40.7
#4	42.8	16.5	57.2
#8	35.7	7.1	64.3
#16	28.9	6.8	71.1
#30	20.7	8.2	79.3
#50	9.9	10.8	90.1
#100	2.1	7.8	97.9
LBW	0.9	1.2	99.1

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