

Aggregate Optimization Chart

PLANT #: **P-32**

Sample Date: 1/7/19

Concrete Grade: **DM**

Contractor: _____

Dates Test Represents: 1/8/2019 through 1/14/2019

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1400	8.56	2.62	47.5
26A	71-47	Presque Isle	400	2.45	2.62	13.6
2NS	63-92	AA Grange Hall	1150	6.95	2.65	39.0
Total Wt			2950	17.96		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"	85.8	100.0	100.0	93.3	6.7	6.7
1/2"	43.7	98.1	100.0	73.0	20.2	27.0
3/8"	18.7	86.2	100.0	59.5	13.5	40.5
#4	2.6	13.7	97.8	41.2	18.3	58.8
#8	1.8	3.7	86.1	34.9	6.3	65.1
#16	1.6	2.4	70.0	28.4	6.5	71.6
#30	1.5	2.1	48.2	19.8	8.6	80.2
#50	1.4	1.9	17.9	7.9	11.9	92.1
#100	1.4	1.7	2.5	1.9	6.0	98.1
LBW	1.1	1.4	0.5	0.9	1.0	99.1



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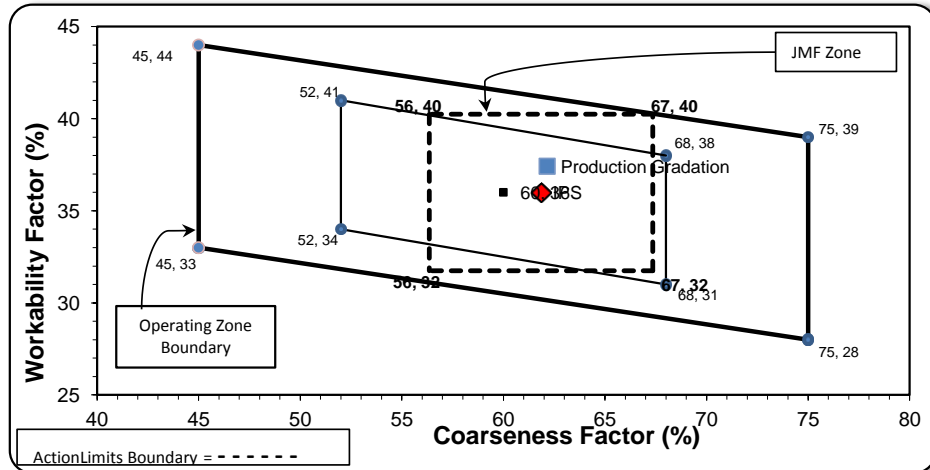
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size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

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	35
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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"	100.0	0.0	0.0
3/4"	95.0	5.0	5.0
1/2"	72.3	22.8	27.7
3/8"	60.4	11.8	39.6
#4	42.6	17.8	57.4
#8	36.0	6.6	64.0
#16	29.5	6.5	70.5
#30	20.3	9.2	79.7
#50	9.5	10.8	90.5
#100	3.4	6.1	96.6
LBW	1.3	2.1	98.7

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-35**

Sample Date: 1/7/19

Concrete Grade: **DM**

Contractor: _____

Dates Test Represents: 1/8/2019 through 1/14/2019

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1325	7.89	2.69	44.2
26A	58-003	Stoneco	550	3.28	2.69	18.4
2NS	47-16	Buno Rd	1120	6.77	2.65	37.4
Total Wt			2995	17.94		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"	79.1	100.0	100.0	90.8	9.2	9.2
1/2"	34.8	99.7	100.0	71.1	19.7	28.9
3/8"	12.9	89.1	100.0	59.5	11.6	40.5
#4	2.5	21.1	96.3	41.0	18.5	59.0
#8	2.1	6.0	86.2	34.3	6.7	65.7
#16	2.0	2.7	72.9	28.6	5.6	71.4
#30	1.8	2.0	53.4	21.1	7.5	78.9
#50	1.7	1.8	18.5	8.0	13.1	92.0
#100	1.6	1.7	2.7	2.0	6.0	98.0
LBW	1.5	1.4	0.4	1.1	1.0	98.9

*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.



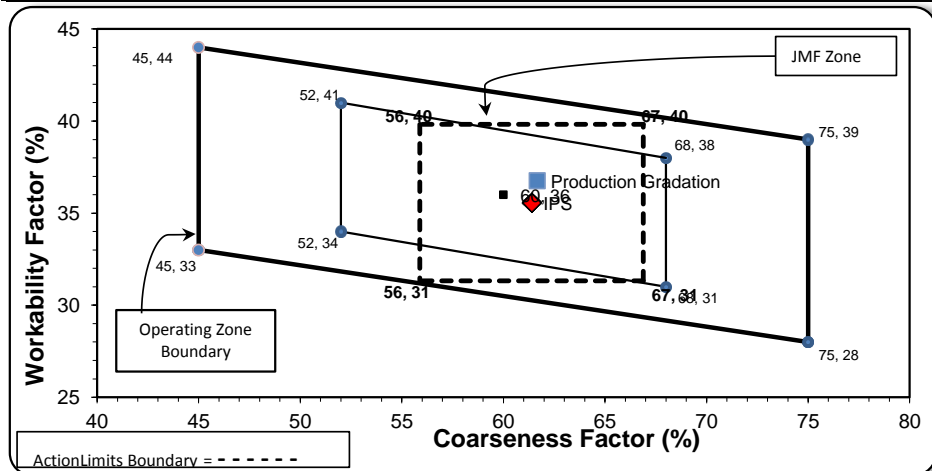
Superior Materials, LLC
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Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	34	Adjusted WF	36.8
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Coarseness Factor:	61
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"	99.3	0.7	0.7
3/4"	89.1	10.2	10.9
1/2"	70.5	18.6	29.5
3/8"	60.5	10.0	39.5
#4	44.1	16.4	55.9
#8	35.6	8.5	64.4
#16	27.7	7.9	72.3
#30	20.6	7.1	79.4
#50	8.7	11.8	91.3
#100	1.6	7.1	98.4
LBW	1.1	0.6	98.9

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