

Aggregate Optimization Chart

PLANT #: **P-36**

Sample Date: 2/3/20

Concrete Grade: **TM**

Dates Test Represents: 2/4/2020 through 2/10/2020

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1390	8.50	2.62	48.1
26A	71-47	Presque Isle	400	2.45	2.62	13.8
2NS	63-92	Grange Hall	1100	6.65	2.65	38.1
Total Wt			2890	17.60		100.0

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



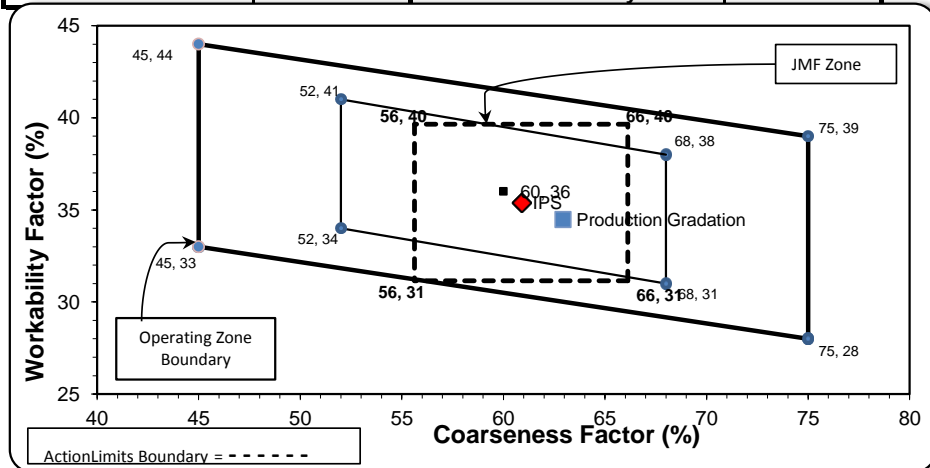
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	97.8	100.0	100.0	98.9	1.1	1.1
3/4"	82.3	100.0	100.0	91.5	7.5	8.5
1/2"	41.8	98.7	100.0	71.8	19.7	28.2
3/8"	20.7	77.6	100.0	58.8	13.1	41.2
#4	4.1	16.2	97.5	41.3	17.4	58.7
#8	2.8	4.8	85.3	34.5	6.8	65.5
#16	2.4	3.2	70.3	28.4	6.1	71.6
#30	2.0	3.0	50.7	20.7	7.7	79.3
#50	2.0	2.8	19.6	8.8	11.9	91.2
#100	1.8	2.7	2.7	2.3	6.5	97.7
LBW	1.4	2.5	0.3	1.1	1.1	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.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	63	Workability Factor:	34
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Initial Production Sample (IPS)

Coarseness Factor:		61	
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"	99.1	0.9	0.9
3/4"	90.8	8.3	9.2
1/2"	70.6	20.2	29.4
3/8"	60.7	9.9	39.3
#4	42.3	18.4	57.7
#8	35.4	6.9	64.6
#16	28.7	6.7	71.3
#30	21.3	7.4	78.7
#50	8.8	12.5	91.2
#100	1.8	7.0	98.2
LBW	0.8	1.0	99.2

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-39**

Sample Date: 2/3/20 Concrete Grade: **TM**
 Dates Test Represents: 2/4/2020 through 2/10/2020

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1600	9.79	2.62	55.4
26A	71-47	Presque Isle	140	0.86	2.62	4.8
2NS	63-92	Grange Hall	1150	6.95	2.65	39.8
Total Wt			2890	17.60		100.0

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



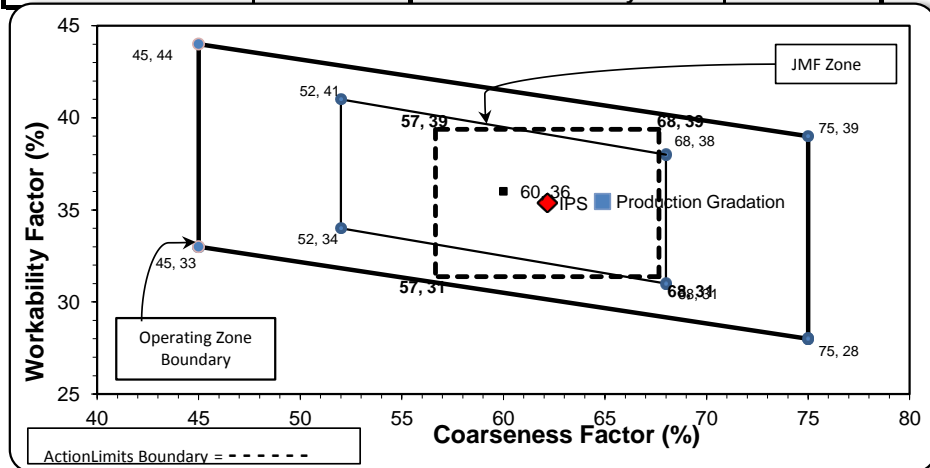
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
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Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	98.6	100.0	100.0	99.2	0.8	0.8
3/4"	85.5	100.0	100.0	92.0	7.3	8.0
1/2"	44.4	98.7	100.0	69.2	22.8	30.8
3/8"	26.3	77.6	100.0	58.1	11.0	41.9
#4	4.9	16.2	97.5	42.3	15.8	57.7
#8	2.3	4.8	85.3	35.4	6.8	64.6
#16	1.9	3.2	70.3	29.2	6.3	70.8
#30	1.8	3.0	50.7	21.3	7.9	78.7
#50	1.8	2.8	19.6	8.9	12.4	91.1
#100	1.7	2.7	2.7	2.1	6.8	97.9
LBW	1.5	2.5	0.3	1.1	1.1	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.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	65	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"	100.0	0.0	0.0
3/4"	89.9	10.1	10.1
1/2"	70.9	19.0	29.1
3/8"	59.8	11.1	40.2
#4	42.8	17.0	57.2
#8	35.4	7.4	64.6
#16	28.8	6.5	71.2
#30	21.1	7.7	78.9
#50	9.7	11.4	90.3
#100	3.7	6.1	96.3
LBW	1.2	2.4	98.8

PREPARED BY:
 SM, LLC Technical Service

Approved By: