

Aggregate Optimization Chart

PLANT #: **P-36**

Sample Date: 7/15/19

Concrete Grade: **TM**

Contractor: _____

Dates Test Represents: 7/16/2019 through 7/22/2019

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1250	7.65	2.62	43.3
26A	71-47	Presque Isle	490	3.00	2.62	17.0
2NS	63-92	Grange Hall	1150	6.95	2.65	39.8
Total Wt			2890	17.60		100.0

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



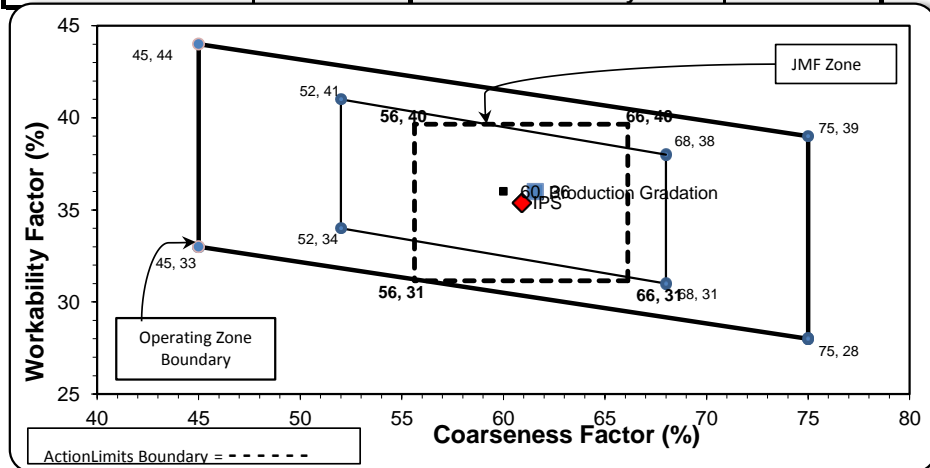
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	97.5	100.0	100.0	98.9	1.1	1.1
3/4"	75.2	100.0	100.0	89.3	9.6	10.7
1/2"	29.2	97.2	100.0	68.9	20.4	31.1
3/8"	13.6	87.9	100.0	60.6	8.3	39.4
#4	2.2	23.9	97.8	43.9	16.7	56.1
#8	1.4	7.3	85.8	36.0	7.9	64.0
#16	1.3	3.8	71.2	29.5	6.4	70.5
#30	1.2	3.1	52.6	22.0	7.6	78.0
#50	1.2	2.8	21.4	9.5	12.5	90.5
#100	1.0	2.5	1.9	1.6	7.9	98.4
LBW	0.6	2.0	0.2	0.7	0.9	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:	62	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"	99.1	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: 7/15/19

Concrete Grade: **TM**

Contractor: _____

Dates Test Represents: 7/16/2019 through 7/22/2019

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1740	10.64	2.62	60.2
26A	71-47	Presque Isle	0	0.00	2.62	0.0
2NS	44-051	Krake Willis Rd	1150	6.95	2.65	39.8
Total Wt			2890	17.60		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"	98.4	100.0	100.0	99.0	1.0	1.0
3/4"	88.5	100.0	100.0	93.1	6.0	6.9
1/2"	52.3	95.9	100.0	71.3	21.8	28.7
3/8"	33.3	83.7	100.0	59.8	11.4	40.2
#4	6.4	12.3	96.1	42.1	17.7	57.9
#8	2.4	3.2	82.1	34.1	8.0	65.9
#16	1.7	1.8	65.4	27.0	7.1	73.0
#30	1.5	1.5	49.3	20.5	6.5	79.5
#50	1.5	1.4	26.6	11.5	9.0	88.5
#100	1.4	1.3	7.7	3.9	7.6	96.1
LBW	1.3	1.2	1.3	1.3	2.6	98.7

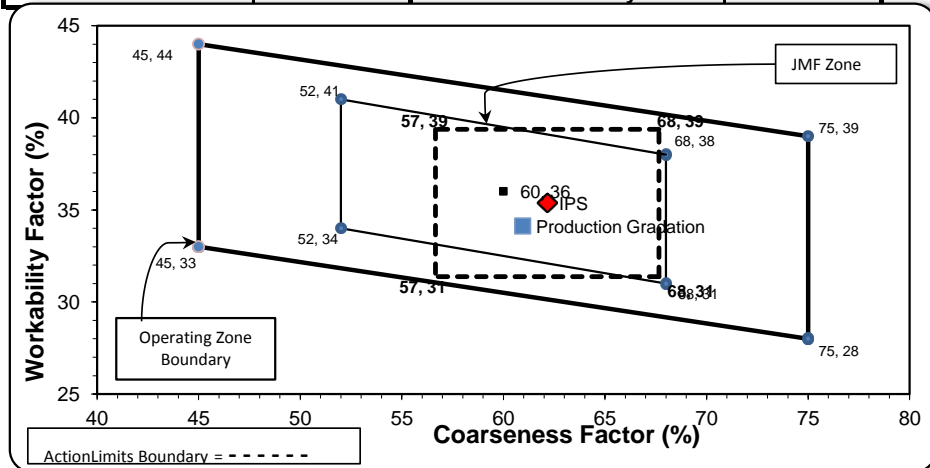


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 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	61	Workability Factor:	34
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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"	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

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