

Aggregate Optimization Chart

PLANT #: **P-36**

Sample Date: 6/3/19 Concrete Grade: **TM**
 Dates Test Represents: 6/4/2019 through 6/10/2019

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1525	9.33	2.62	50.9
26A	71-47	Presque Isle	250	1.53	2.62	8.3
2NS	63-92	Grange Hall	1220	7.38	2.65	40.7
Total Wt			2995	18.23		100.0

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



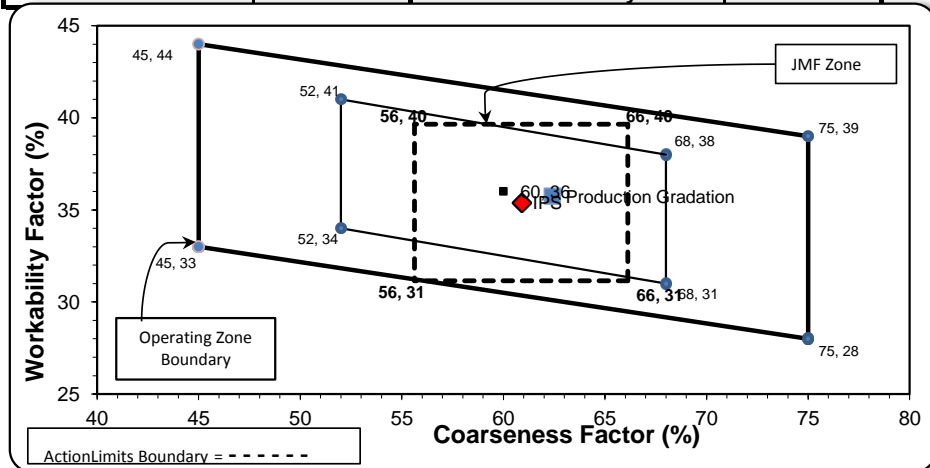
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	97.0	100.0	100.0	98.5	1.5	1.5
3/4"	75.9	100.0	100.0	87.7	10.7	12.3
1/2"	38.6	98.3	100.0	68.6	19.1	31.4
3/8"	22.5	92.3	100.0	59.9	8.7	40.1
#4	3.5	24.1	97.2	43.4	16.5	56.6
#8	1.7	6.9	84.2	35.7	7.6	64.3
#16	1.4	3.1	68.7	29.0	6.8	71.0
#30	1.4	2.2	50.9	21.6	7.3	78.4
#50	1.3	1.9	23.0	10.2	11.4	89.8
#100	1.2	1.8	4.7	2.7	7.5	97.3
LBW	0.8	1.6	0.3	0.7	2.0	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)

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: 6/3/19 Concrete Grade: **TM**
 Dates Test Represents: 6/4/2019 through 6/10/2019

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1645	10.06	2.62	54.9
26A	71-47	Presque Isle	150	0.92	2.62	5.0
2NS	44-051	Krake Willis Rd	1200	7.26	2.65	40.1
Total Wt			2995	18.24		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"	99.1	100.0	100.0	99.5	0.5	0.5
3/4"	89.1	100.0	100.0	94.0	5.5	6.0
1/2"	47.4	98.3	100.0	71.0	23.0	29.0
3/8"	29.3	92.3	100.0	60.8	10.2	39.2
#4	4.3	24.1	96.0	42.0	18.7	58.0
#8	1.9	6.9	84.0	35.0	7.0	65.0
#16	1.7	3.1	68.2	28.4	6.6	71.6
#30	1.6	2.2	50.3	21.1	7.3	78.9
#50	1.5	1.9	22.7	10.0	11.1	90.0
#100	1.5	1.8	7.0	3.7	6.3	96.3
LBW	1.4	1.6	1.0	1.2	2.5	98.8

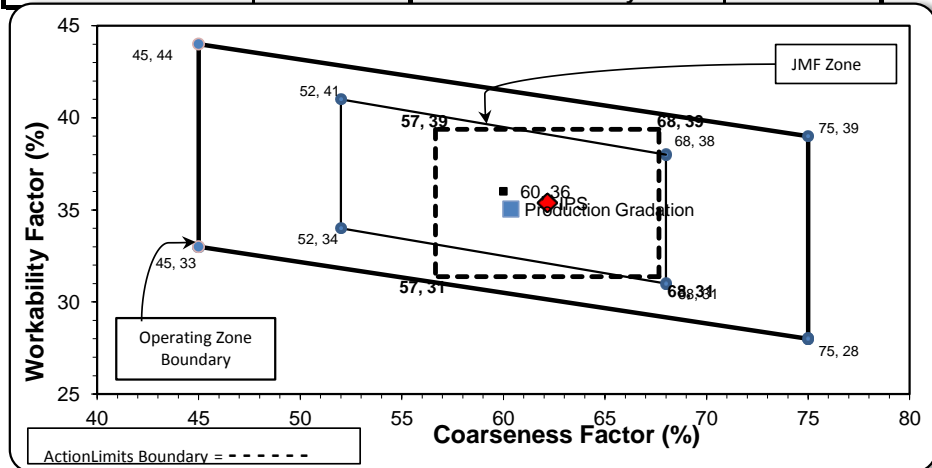


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 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **60** **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"	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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