

Aggregate Optimization Chart

MIX ID'S: DDT0F7ET

Production Gradation Report

PLANT #: **P-102**

Sample Date: 12/3/18

Concrete Grade: **TM**

Contractor: _____

Dates Test Represents: 12/4/2018 through 12/10/2018

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1445	8.61	2.69	47.5
26A	58-003	Stoneco	400	2.38	2.69	13.1
2NS	47-16	Buno Rd	1200	7.26	2.65	39.4
Total Wt			3045	18.25		100.0

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



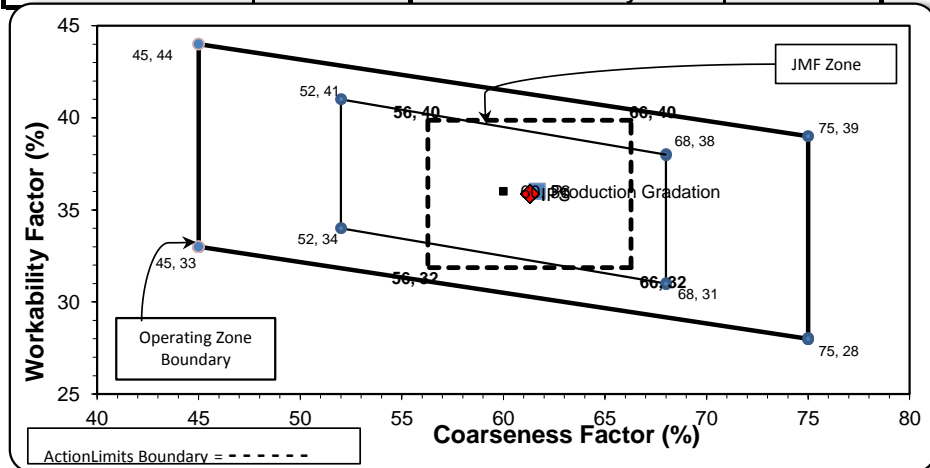
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	99.7	100.0	100.0	99.9	0.1	0.1
3/4"	82.7	100.0	100.0	91.8	8.1	8.2
1/2"	43.3	99.6	100.0	73.0	18.7	27.0
3/8"	20.6	86.4	100.0	60.5	12.5	39.5
#4	4.6	19.8	96.2	42.7	17.8	57.3
#8	2.4	6.2	86.4	36.0	6.7	64.0
#16	1.8	3.0	73.3	30.1	5.9	69.9
#30	1.7	2.4	54.2	22.5	7.7	77.5
#50	1.6	2.0	19.2	8.6	13.9	91.4
#100	1.5	1.9	2.4	1.9	6.7	98.1
LBW	1.3	1.6	0.3	0.9	1.0	99.1

*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:	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"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
#8	35.9	8.5	64.1
#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

MIX ID'S: DDT0F7ET

Production Gradation Report

PLANT #: **P-36**

Sample Date: 12/3/18

Concrete Grade: **TM**

Contractor: _____

Dates Test Represents: 12/4/2018 through 12/10/2018

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1345	8.23	2.62	44.9
26A	71-47	Presque Isle	450	2.75	2.62	15.0
2NS	63-92	AA Grange Hall	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"	99.8	100.0	100.0	99.9	0.1	0.1
3/4"	86.4	100.0	100.0	93.9	6.0	6.1
1/2"	38.7	96.5	100.0	71.9	21.9	28.1
3/8"	15.0	74.9	100.0	58.1	13.9	41.9
#4	2.1	5.0	97.7	40.8	17.2	59.2
#8	1.4	1.4	85.0	34.9	5.9	65.1
#16	1.2	1.0	69.0	28.3	6.6	71.7
#30	1.1	0.9	48.1	19.9	8.4	80.1
#50	1.1	0.8	18.6	8.1	11.8	91.9
#100	1.0	0.7	2.6	1.6	6.5	98.4
LBW	0.7	0.5	0.3	0.5	1.1	99.5

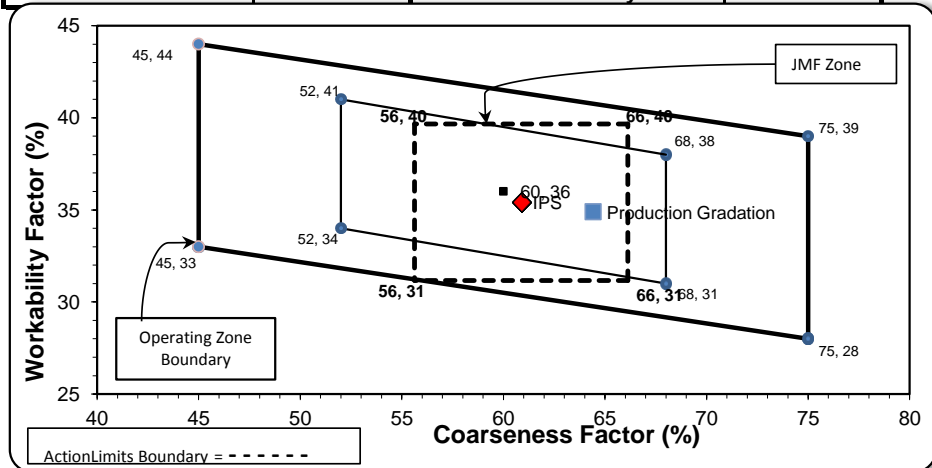
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size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



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Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 64 **Workability Factor: 35**



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"	100.0	0.0	0.0
3/4"	95.9	4.1	4.1
1/2"	74.3	21.5	25.7
3/8"	60.7	13.6	39.3
#4	42.6	18.1	57.4
#8	35.4	7.2	64.6
#16	28.7	6.7	71.3
#30	20.5	8.2	79.5
#50	9.8	10.7	90.2
#100	2.1	7.7	97.9
LBW	0.9	1.2	99.1

PREPARED BY:
 SM, LLC Technical Service

Approved By: