

Aggregate Optimization Chart

MIX ID'S: DDT0F7ET

Production Gradation Report

PLANT #: **P-102**

Sample Date: 10/29/18

Concrete Grade: **TM**

Contractor: _____

Dates Test Represents: 10/30/2018 through 11/5/2018

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1500	8.94	2.69	49.3
26A	58-003	Stoneco	345	2.06	2.69	11.3
2NS	38-046	Chelsea	1200	7.26	2.65	39.4
Total Wt			3045	18.25		100.0

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



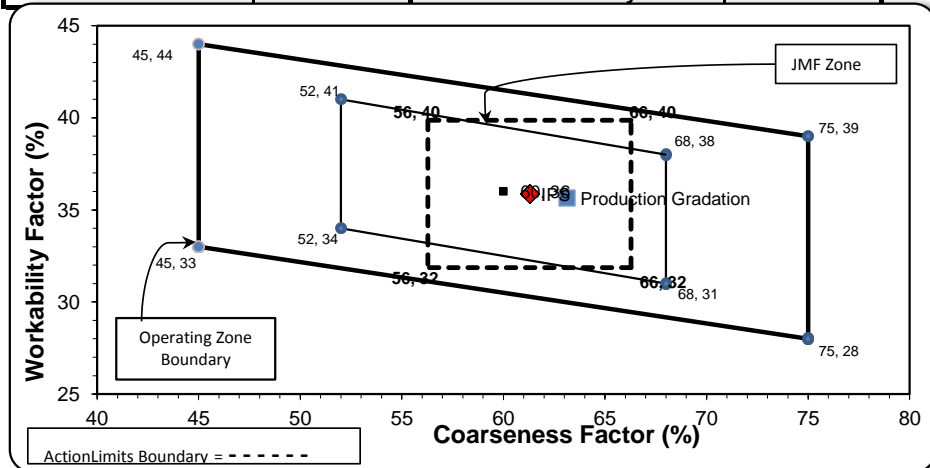
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	84.4	100.0	100.0	92.3	7.7	7.7
1/2"	41.8	99.7	100.0	71.3	21.0	28.7
3/8"	20.5	87.0	100.0	59.4	11.9	40.6
#4	3.2	14.2	100.0	42.6	16.8	57.4
#8	1.3	2.8	88.0	35.6	7.0	64.4
#16	1.1	1.2	64.0	25.9	9.7	74.1
#30	1.0	1.0	42.0	17.2	8.7	82.8
#50	0.9	0.9	22.0	9.2	7.9	90.8
#100	0.8	0.8	5.0	2.5	6.8	97.5
LBW	0.6	0.6	0.8	0.7	1.8	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:	63	Workability Factor:	36
---------------------------	-----------	----------------------------	-----------



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"	99.3	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: 10/29/18

Concrete Grade: **TM**

Contractor: _____

Dates Test Represents: 10/30/2018 through 11/5/2018

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1395	8.53	2.62	46.6
26A	71-47	Presque Isle	400	2.45	2.62	13.4
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%



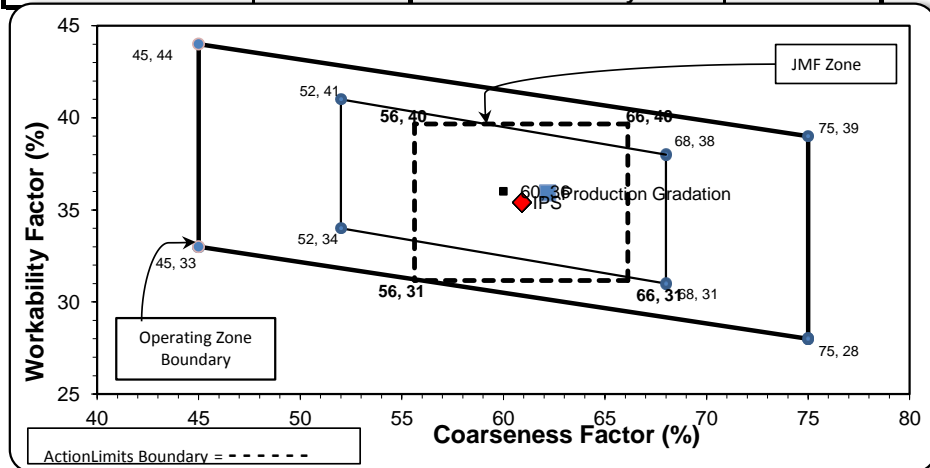
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	97.4	100.0	100.0	98.8	1.2	1.2
3/4"	79.7	100.0	100.0	90.5	8.2	9.5
1/2"	39.2	95.8	100.0	71.1	19.4	28.9
3/8"	20.1	80.3	100.0	60.2	11.0	39.8
#4	4.4	17.5	97.2	43.3	16.8	56.7
#8	2.6	6.4	84.5	35.9	7.4	64.1
#16	2.3	4.1	69.4	29.4	6.5	70.6
#30	2.2	3.2	51.2	22.0	7.5	78.0
#50	2.0	2.8	23.6	10.8	11.2	89.2
#100	1.9	2.5	3.9	2.8	8.0	97.2
LBW	1.4	1.8	0.4	1.1	1.7	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:	62	Workability Factor:	36
---------------------------	-----------	----------------------------	-----------



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: