

Aggregate Optimization Chart

MIX ID'S: DDD0K7E7 and DDD0K7E9

Production Gradation Report

PLANT #: **P-103**

Sample Date: 6/12/17

Concrete Grade: DM

Contractor: _____

Dates Test Represents: 6/12/2017 to 6/18/2017

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1500	8.94	2.69	50.2
26A	58-003	Stoneco	250	1.49	2.69	8.4
2NS	81-93	Burmeister	1240	7.53	2.64	41.5
Total Wt			2990	17.95		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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	78.5	100.0	100.0	89.2	10.8	10.8
1/2"	37.8	99.7	100.0	68.8	20.4	31.2
3/8"	19.2	85.3	100.0	58.2	10.5	41.8
#4	3.0	20.8	98.4	44.1	14.2	55.9
#8	0.8	5.5	82.5	35.1	9.0	64.9
#16	0.7	2.5	65.8	27.8	7.2	72.2
#30	0.5	1.9	48.1	20.4	7.5	79.6
#50	0.5	1.7	21.9	9.5	10.9	90.5
#100	0.4	1.6	4.2	2.1	7.4	97.9
LBW	0.3	1.4	1.1	0.7	1.4	99.3

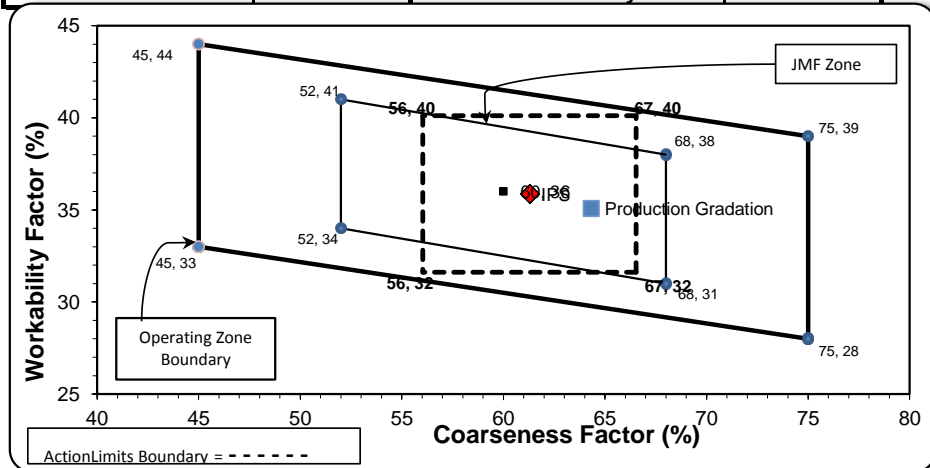


Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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



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: DDD0K7E7 and DDD0K7E9

Production Gradation Report

PLANT #: **P-36**

Sample Date: 6/12/17

Concrete Grade: DM

Contractor: _____

Dates Test Represents: 6/12/2017 to 6/18/2017

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1520	9.06	2.69	50.8
26A	71-47	Presque Isle	260	1.59	2.62	8.7
2NS	63-92	AA Grange Hall	1210	7.32	2.65	40.5
Total Wt			2990	17.96		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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	78.5	100.0	100.0	89.1	10.9	10.9
1/2"	37.8	96.8	100.0	68.1	21.0	31.9
3/8"	19.2	83.6	100.0	57.5	10.6	42.5
#4	3.0	10.9	98.1	42.2	15.3	57.8
#8	0.8	2.9	87.5	36.1	6.1	63.9
#16	0.7	2.1	71.4	29.4	6.6	70.6
#30	0.5	2.0	51.7	21.4	8.1	78.6
#50	0.5	1.9	20.7	8.8	12.6	91.2
#100	0.4	1.8	2.7	1.5	7.3	98.5
LBW	0.3	1.7	0.3	0.4	1.0	99.6

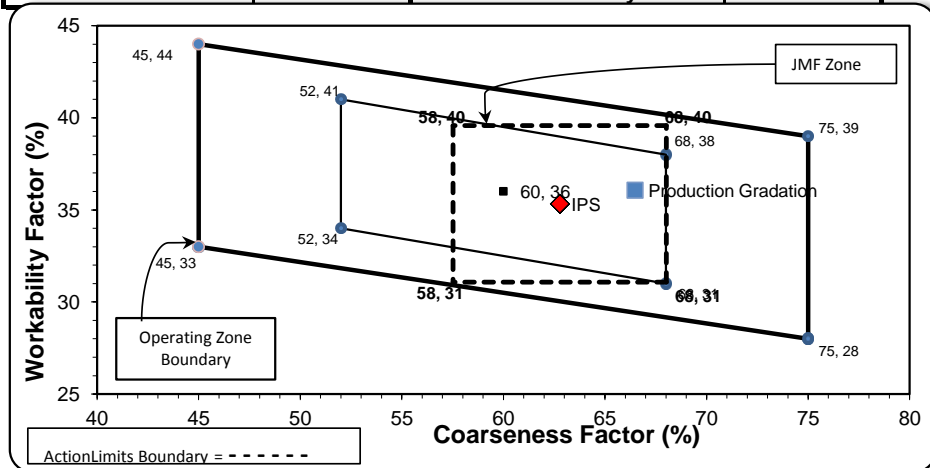


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Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **66** **Workability Factor:** **36**



Initial Production Sample (IPS)

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Workability Factor:		35	
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
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1.5"	100.0	0.0	0.0
1"	99.9	0.1	0.1
3/4"	89.1	10.8	10.9
1/2"	71.3	17.8	28.7
3/8"	59.4	11.9	40.6
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#16	28.5	6.8	71.5
#30	20.9	7.6	79.1
#50	9.0	12.0	91.0
#100	1.7	7.3	98.3
LBW	0.7	1.0	99.3

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Approved By:

Aggregate Optimization Chart

MIX ID'S: DDD0K7E7 and DDD0K7E9

Production Gradation Report

PLANT #: **P-38**

Sample Date: 6/12/17

Concrete Grade: **DM**

Contractor: _____

Dates Test Represents: 6/12/2017 to 6/18/2017

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1500	8.94	2.69	50.2
26A	58-003	Stoneco	250	1.49	2.69	8.4
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1"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	78.5	100.0	100.0	89.2	10.8	10.8
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LBW	0.3	1.4	1.1	0.7	1.4	99.3

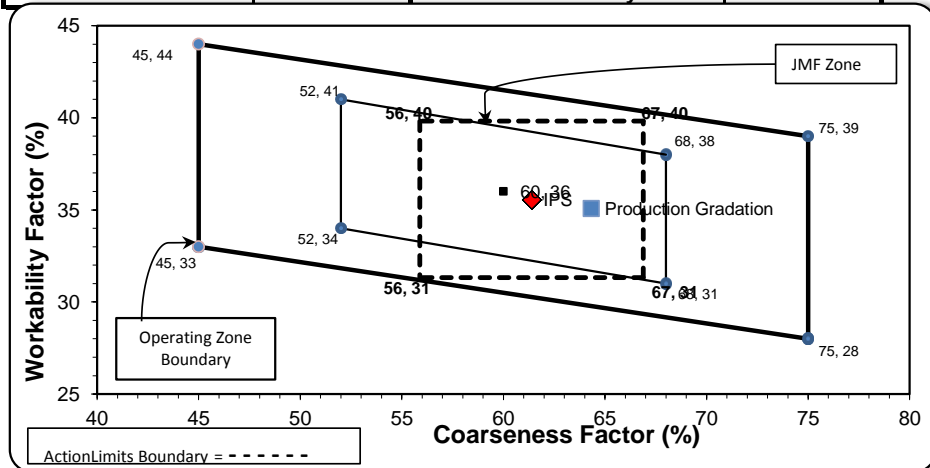


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Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

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1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.1	10.2	10.9
1/2"	70.5	18.6	29.5
3/8"	60.5	10.0	39.5
#4	44.1	16.4	55.9
#8	35.6	8.5	64.4
#16	27.7	7.9	72.3
#30	20.6	7.1	79.4
#50	8.7	11.8	91.3
#100	1.6	7.1	98.4
LBW	1.1	0.6	98.9

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