

Aggregate Optimization Chart

MIX ID'S: DDP154E7, DDP154E8, DDP164E7 and DDP164E8

Production Gradation Report

PLANT #: **P-101**

Sample Date: 5/1/17

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 5/1/2017 to 5/7/2017

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	950	5.81	2.62	30.9
IA	71-47	Presque Isle	820	5.02	2.62	26.7
2NS	63-115	Ray Road	1300	7.86	2.65	42.3
Total Wt			3070	18.69		100.0

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

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.6	100.0	100.0	98.9	1.1	1.1
1"	53.2	100.0	100.0	85.5	13.4	14.5
3/4"	15.2	96.4	100.0	72.8	12.7	27.2
1/2"	3.7	76.9	100.0	64.0	8.8	36.0
3/8"	2.9	48.0	100.0	56.1	8.0	43.9
#4	2.4	6.2	97.3	43.6	12.5	56.4
#8	2.3	2.6	78.7	34.7	8.9	65.3
#16	2.3	2.2	60.8	27.0	7.7	73.0
#30	2.2	2.1	43.9	19.8	7.2	80.2
#50	2.2	2.0	20.7	10.0	9.9	90.0
#100	2.0	1.9	3.8	2.7	7.2	97.3
LBW	1.4	1.7	0.5	1.1	1.6	98.9



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

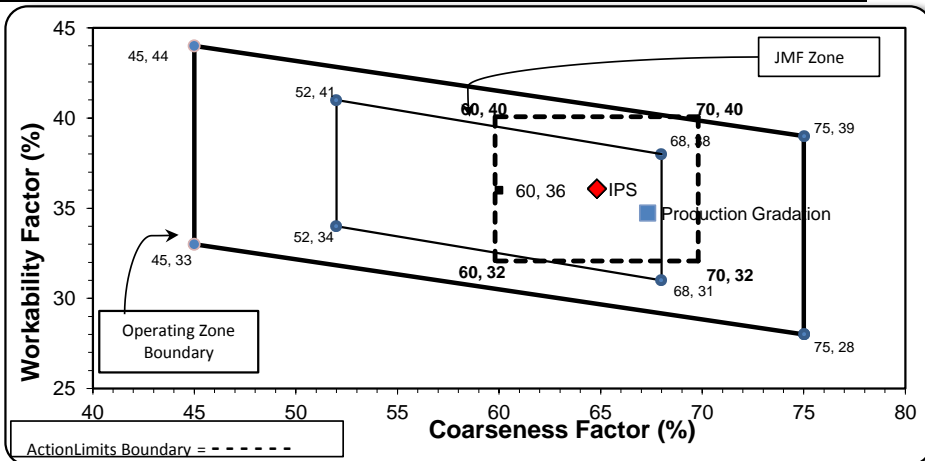
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size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

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **67** **Workability Factor:** **35**

Initial Production Sample (IPS)

Coarseness Factor: 65		Workability Factor: 36	
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.3	0.7	0.7
1"	83.6	15.7	16.4
3/4"	73.0	10.6	27.0
1/2"	65.1	7.9	34.9
3/8"	58.6	6.5	41.4
#4	45.8	12.8	54.2
#8	36.1	9.7	63.9
#16	28.8	7.3	71.2
#30	21.7	7.1	78.3
#50	10.3	11.4	89.7
#100	3.1	7.2	96.9
LBW	1.3	1.8	98.7



PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

MIX ID'S: DDP154E7, DDP154E8, DDP164E7 and DDP164E8

Production Gradation Report

PLANT #: **P-39**

Sample Date: 5/1/17

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 5/1/2017 to 5/7/2017

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	950	5.81	2.62	30.9
IA	71-47	Presque Isle	820	5.02	2.62	26.7
2NS	63-115	Ray Road	1300	7.86	2.65	42.3
Total Wt			3070	18.69		100.0

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

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.6	100.0	100.0	98.9	1.1	1.1
1"	53.2	100.0	100.0	85.5	13.4	14.5
3/4"	15.2	96.4	100.0	72.8	12.7	27.2
1/2"	3.7	76.9	100.0	64.0	8.8	36.0
3/8"	2.9	48.0	100.0	56.1	8.0	43.9
#4	2.4	6.2	97.3	43.6	12.5	56.4
#8	2.3	2.6	78.7	34.7	8.9	65.3
#16	2.3	2.2	60.8	27.0	7.7	73.0
#30	2.2	2.1	43.9	19.8	7.2	80.2
#50	2.2	2.0	20.7	10.0	9.9	90.0
#100	2.0	1.9	3.8	2.7	7.2	97.3
LBW	1.4	1.7	0.5	1.1	1.6	98.9

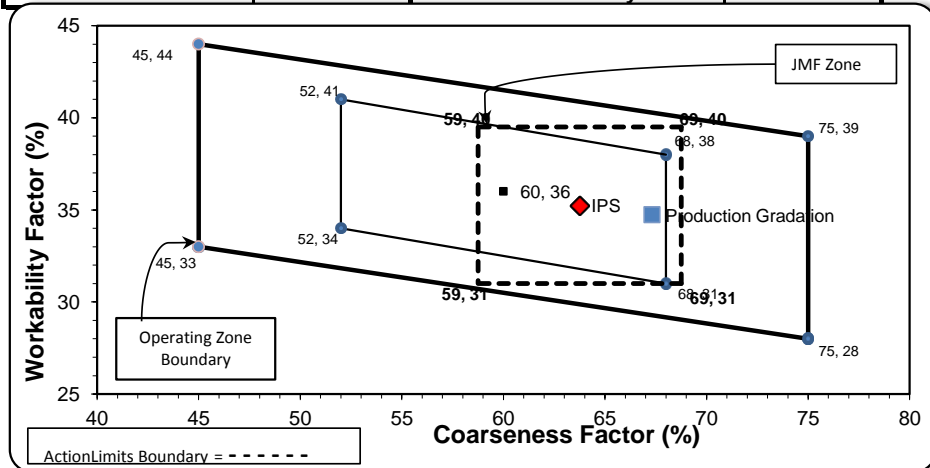


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 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size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

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 67 **Workability Factor: 35**



Initial Production Sample (IPS)

Coarseness Factor: 64		Workability Factor: 35	
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.4	0.6	0.6
1"	84.3	15.1	15.7
3/4"	73.9	10.4	26.1
1/2"	65.7	8.2	34.3
3/8"	58.7	7.0	41.3
#4	45.1	13.6	54.9
#8	35.3	9.8	64.7
#16	28.1	7.2	71.9
#30	21.2	6.9	78.8
#50	10.1	11.1	89.9
#100	3.1	7.0	96.9
LBW	1.4	1.7	98.6

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 SM, LLC Technical Service

Approved By: