

Aggregate Optimization Chart

PLANT #: P11

Contractor: _____

Sample Date: 11/28/2025

Concrete Grade: P1M, 3500HP, 4000HP

Dates Test Represents: 12/2/2025 through 12/8/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	900	5.50	2.62	29.3
IA	71-47	Presque Isle	970	5.93	2.62	31.6
2NS	63-115	Ray Rd	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

←----- Verify this number is 100%



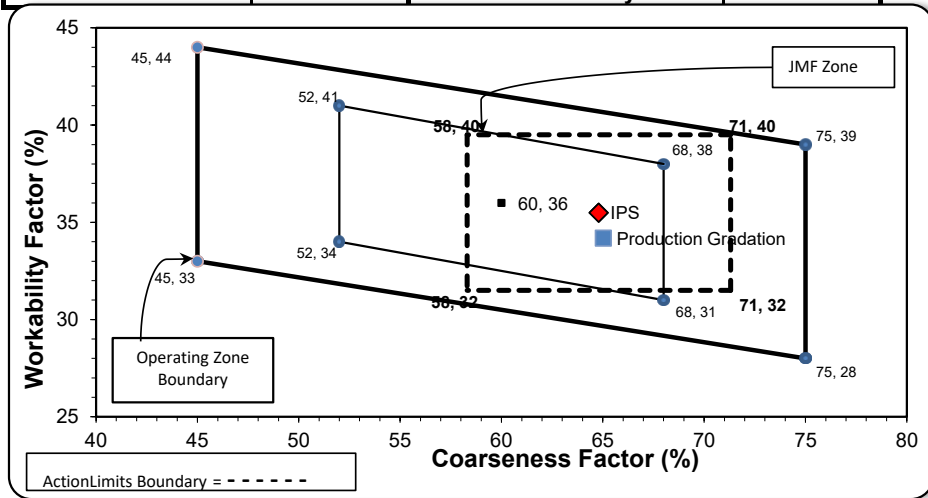
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.3	100.0	100.0	98.9	1.1	1.1
1"	39.4	100.0	100.0	82.2	16.7	17.8
3/4"	8.9	98.3	100.0	72.8	9.5	27.2
1/2"	3.1	81.0	100.0	65.6	7.2	34.4
3/8"	2.3	55.2	100.0	57.2	8.4	42.8
#4	2.0	11.9	96.8	42.2	15.0	57.8
#8	1.8	4.2	82.7	34.2	8.0	65.8
#16	1.7	3.0	64.4	26.6	7.6	73.4
#30	1.6	2.8	47.7	20.0	6.6	80.0
#50	1.5	2.6	23.9	10.6	9.4	89.4
#100	1.4	2.4	4.8	3.0	7.6	97.0
LBW	1.3	2.2	1.0	1.5	1.6	98.5

*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.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	65	Workability Factor:	34
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Initial Production Sample (IPS)

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.0	0.6	0.6
1"	84.0	15.3	16.0
3/4"	73.5	10.5	26.5
1/2"	65.2	8.2	34.8
3/8"	58.2	7.1	41.8
#4	44.1	14.1	55.9
#8	35.5	8.6	64.5
#16	29.1	6.4	70.9
#30	21.9	7.3	78.1
#50	9.6	12.2	90.4
#100	2.6	7.1	97.4
LBW	1.0	1.6	99.0

PREPARED BY:
 SM, LLC Technical Service

Approved By:
 Nancy Donahue

Aggregate Optimization Chart

PLANT #: **P-O2**

Contractor: _____

Sample Date: 11/28/2025

Concrete Grade: **P1M, 3500HP, 4000HP**

Dates Test Represents: 12/2/2025 through 12/8/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	900	5.50	2.62	29.3
IA	71-47	Presque Isle	970	5.93	2.62	31.6
2NS	63-115	Ray Rd	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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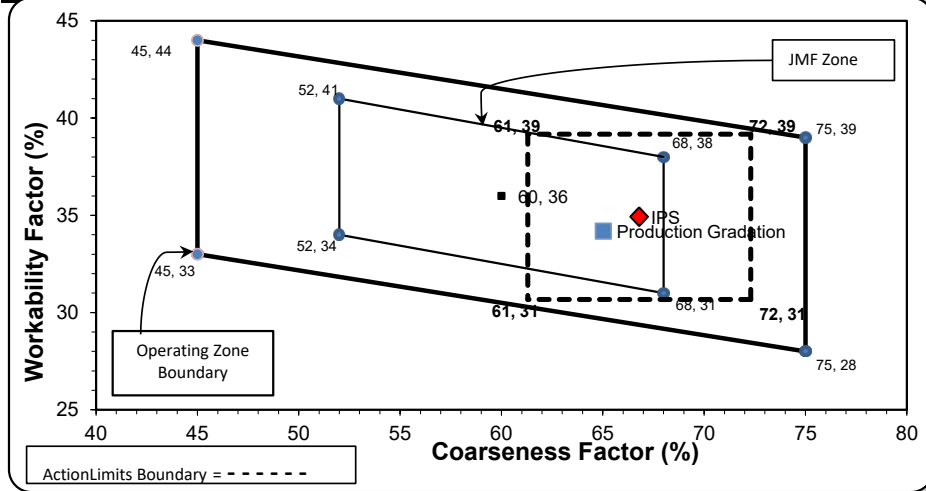
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
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Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.3	100.0	100.0	98.9	1.1	1.1
1"	39.4	100.0	100.0	82.2	16.7	17.8
3/4"	8.9	98.3	100.0	72.8	9.5	27.2
1/2"	3.1	81.0	100.0	65.6	7.2	34.4
3/8"	2.3	55.2	100.0	57.2	8.4	42.8
#4	2.0	11.9	96.8	42.2	15.0	57.8
#8	1.8	4.2	82.7	34.2	8.0	65.8
#16	1.7	3.0	64.4	26.6	7.6	73.4
#30	1.6	2.8	47.7	20.0	6.6	80.0
#50	1.5	2.6	23.9	10.6	9.4	89.4
#100	1.4	2.4	4.8	3.0	7.6	97.0
LBW	1.3	2.2	1.0	1.5	1.6	98.5

*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.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	65	Workability Factor:	34
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Initial Production Sample (IPS)

Coarseness Factor:	67		
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"	85.0	15.0	15.0
3/4"	72.3	12.7	27.7
1/2"	64.5	7.8	35.5
3/8"	56.5	8.0	43.5
#4	42.7	13.8	57.3
#8	34.9	7.8	65.1
#16	29.0	5.9	71.0
#30	21.0	8.0	79.0
#50	8.2	12.8	91.8
#100	1.6	6.5	98.4
LBW	0.7	0.9	99.3

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 Nancy Donahue