Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Contractor:

Sample Date: 8/25/25

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

Dates Test Represents: 8/26/2025 through 9/1/2025

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	58-003	Stoneco	1400	8.34	2.69	44.9
IA	58-003	Stoneco	520	3.10	2.69	16.7
2NS	63-114	Highland	1200	7.26	2.65	38.5
		Total Wt	**3120**	**18.70**		100.0

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

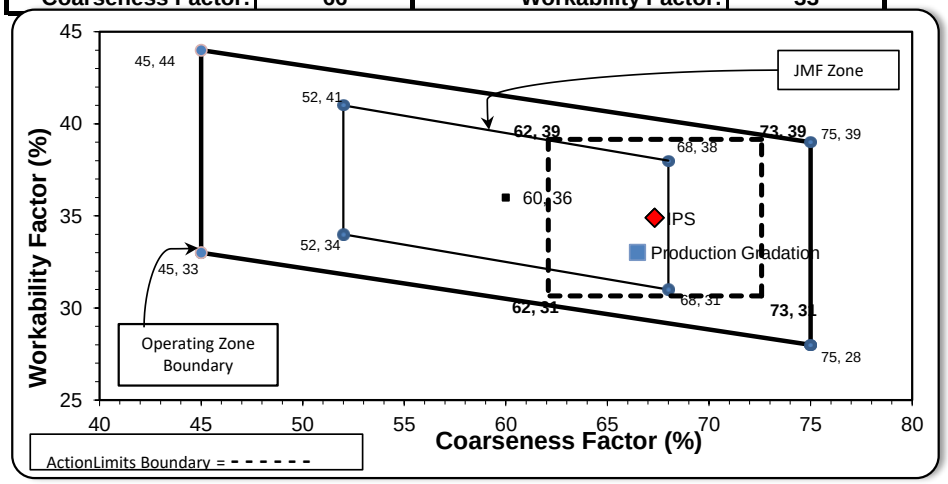
Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	67.8	100.0	100.0	85.6	14.4	14.4
3/4"	42.4	100.0	100.0	74.2	11.4	25.8
1/2"	17.5	89.7	100.0	61.3	12.9	38.7
3/8"	11.2	71.9	100.0	55.5	5.8	44.5
#4	2.0	18.4	98.8	42.0	13.5	58.0
#8	1.5	2.3	83.1	33.0	8.9	67.0
#16	1.4	1.8	63.6	25.4	7.6	74.6
#30	1.3	1.6	43.9	17.7	7.7	82.3
#50	1.2	1.5	20.3	8.6	9.1	91.4
#100	1.2	1.4	3.7	2.2	6.4	97.8
LBW	1.0	1.2	0.3	0.8	1.4	99.2

*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.

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

Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	66	Workability Factor:	33



Intial 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"	85.5	14.5	14.5
3/4"	73.4	12.1	26.6
1/2"	61.0	12.4	39.0
3/8"	56.2	4.8	43.8
#4	43.1	13.1	56.9
#8	34.9	8.2	65.1
#16	29.4	5.5	70.6
#30	21.6	7.8	78.4
#50	8.1	13.4	91.9
#100	2.2	5.9	97.8
LBW	1.4	0.8	98.6

PREPARED BY:
SM, LLC Technical Service

Approved BY:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P11**

Contractor:

Sample Date: 8/25/25

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

Dates Test Represents: 8/26/2025 through 9/1/2025

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft³	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%

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.4	100.0	100.0	98.7	1.3	1.3
1"	36.1	100.0	100.0	81.3	17.4	18.7
3/4"	5.9	99.2	100.0	72.2	9.1	27.8
1/2"	2.0	75.2	100.0	63.4	8.7	36.6
3/8"	2.0	48.6	100.0	55.0	8.4	45.0
#4	1.9	11.6	98.1	42.6	12.5	57.4
#8	1.8	4.4	84.3	34.9	7.7	65.1
#16	1.8	3.1	64.3	26.6	8.2	73.4
#30	1.7	2.9	45.0	19.0	7.6	81.0
#50	1.6	2.8	21.8	9.9	9.1	90.1
#100	1.5	2.6	4.7	3.1	6.8	96.9
LBW	1.2	2.3	0.6	1.3	1.8	98.7

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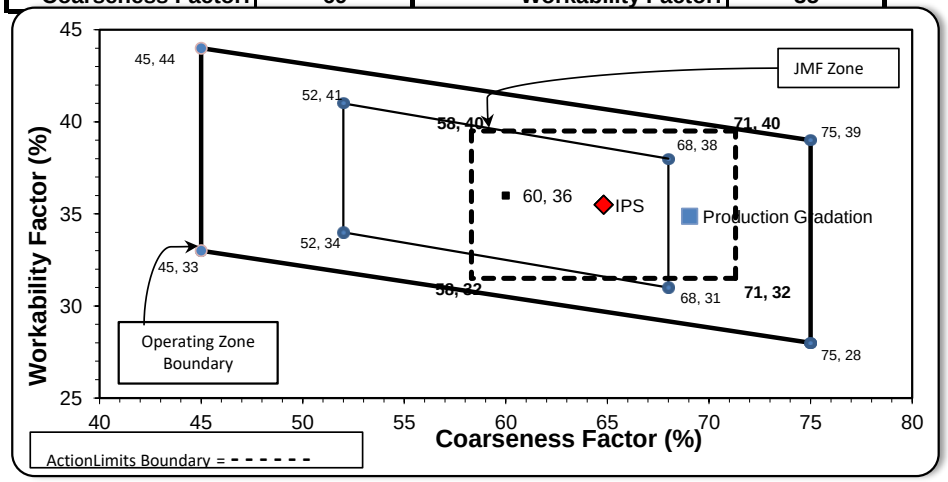
*Maximum % Retained must be above the 3/8" sieve.
*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom.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

Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	69	Workability Factor:	35



Intial Production Sample (IPS)

Coarseness Factor:	65
Workability Factor:	36

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.0	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:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-O2**

Contractor:

Sample Date: 8/25/25

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

Dates Test Represents: 8/26/2025 through 9/1/2025

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft³	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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Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.4	100.0	100.0	98.7	1.3	1.3
1"	36.1	100.0	100.0	81.3	17.4	18.7
3/4"	5.9	99.2	100.0	72.2	9.1	27.8
1/2"	2.0	75.2	100.0	63.4	8.7	36.6
3/8"	2.0	48.6	100.0	55.0	8.4	45.0
#4	1.9	11.6	98.1	42.6	12.5	57.4
#8	1.8	4.4	84.3	34.9	7.7	65.1
#16	1.8	3.1	64.3	26.6	8.2	73.4
#30	1.7	2.9	45.0	19.0	7.6	81.0
#50	1.6	2.8	21.8	9.9	9.1	90.1
#100	1.5	2.6	4.7	3.1	6.8	96.9
LBW	1.2	2.3	0.6	1.3	1.8	98.7

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Production Gradation ○ Batch Plant Gradations ◉ Aggregate SupplierGradations

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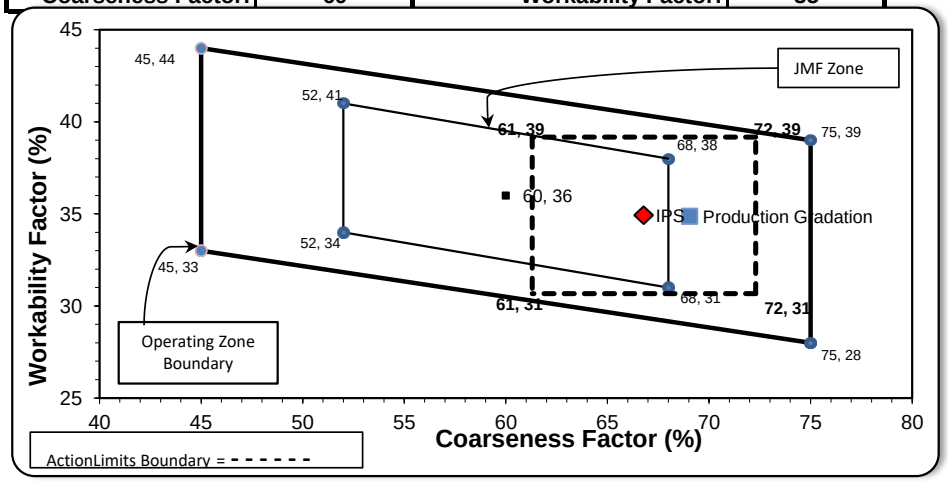

Intial Production Sample (IPS)

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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Approved By: