

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-103

Sample Date: 7/7/25

Concrete Grade: DM, 4500HP

Contractor: _____

Dates Test Represents: 7/8/2025 through 7/14/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1550	9.23	2.69	52.5
26A	58-003	Stoneco	250	1.49	2.69	8.5
2NS	63-114	Highland	1150	6.95	2.65	39.0
Total Wt			2950	17.68		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"	86.4	100.0	100.0	92.9	7.1	7.1
1/2"	48.0	100.0	100.0	72.7	20.2	27.3
3/8"	27.4	84.8	100.0	60.6	12.1	39.4
#4	4.2	5.6	98.7	41.2	19.4	58.8
#8	1.3	1.3	84.3	33.7	7.5	66.3
#16	0.8	1.2	67.3	26.8	6.9	73.2
#30	0.7	1.1	48.7	19.4	7.3	80.6
#50	0.7	1.1	20.3	8.4	11.1	91.6
#100	0.6	1.0	3.8	1.9	6.5	98.1
LBW	0.7	0.9	0.5	0.6	1.2	99.4

*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 4% for the 3/4" sieve when

a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

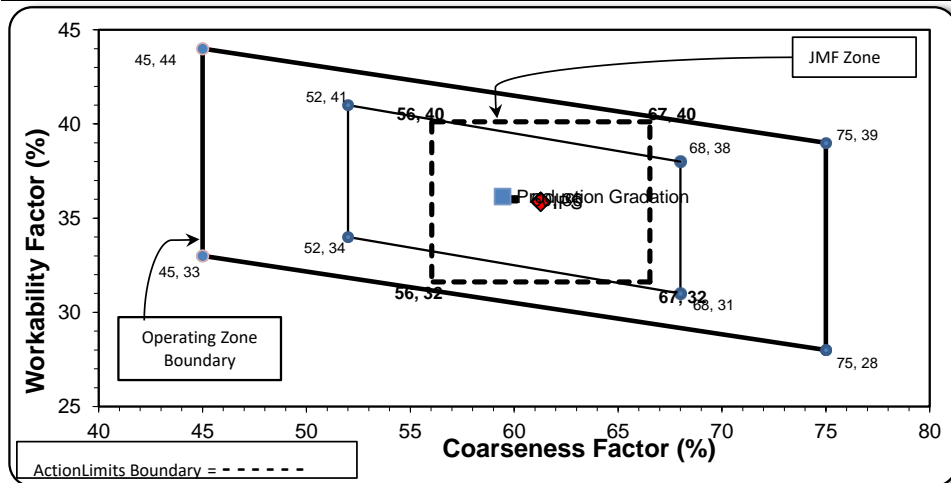
Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	59	Workability Factor:	34	36.2
---------------------------	-----------	----------------------------	-----------	-------------

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

PLANT #: p11

Contractor: _____

Sample Date: 7/7/25

Concrete Grade: DM, 4500HP

Dates Test Represents: 7/8/2025 through 7/14/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1450	8.87	2.62	49.9
26A	71-47	Presque Isle	305	1.87	2.62	10.5
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt			2905	17.69		100.0

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



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

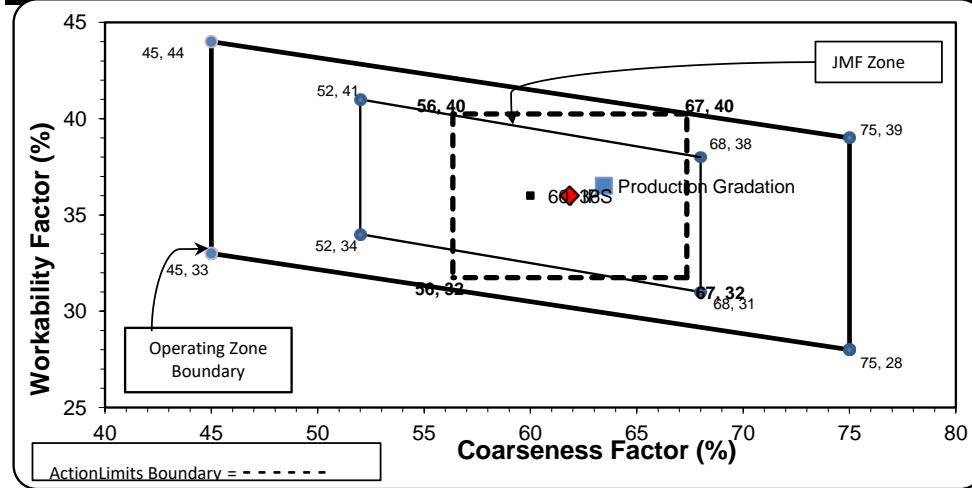
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	99.5	100.0	100.0	99.8	0.2	0.2
3/4"	80.4	100.0	100.0	90.2	9.5	9.8
1/2"	28.6	96.5	100.0	64.0	26.2	36.0
3/8"	19.8	82.5	100.0	58.1	5.9	41.9
#4	3.5	22.1	97.1	42.5	15.6	57.5
#8	2.0	8.7	81.1	34.0	8.5	66.0
#16	1.8	4.6	63.0	26.3	7.7	73.7
#30	1.7	3.6	46.0	19.4	6.9	80.6
#50	1.6	3.3	23.9	10.6	8.8	89.4
#100	1.6	3.1	5.5	3.3	7.3	96.7
LBW	1.4	2.6	0.7	1.2	2.1	98.8

*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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	63	Workability Factor:	34	Adjusted WF	36.5	Coarseness Factor:	62
--------------------	-----------	---------------------	-----------	-------------	-------------	--------------------	-----------



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"	95.0	5.0	5.0
1/2"	72.3	22.8	27.7
3/8"	60.4	11.8	39.6
#4	42.6	17.8	57.4
#8	36.0	6.6	64.0
#16	29.5	6.5	70.5
#30	20.3	9.2	79.7
#50	9.5	10.8	90.5
#100	3.4	6.1	96.6
LBW	1.3	2.1	98.7

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-02**

Sample Date: 7/7/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 7/8/2025 through 7/14/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1450	8.87	2.62	49.9
26A	71-47	Presque Isle	305	1.87	2.62	10.5
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt			2905	17.69		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"	99.5	100.0	100.0	99.8	0.2	0.2
3/4"	80.4	100.0	100.0	90.2	9.5	9.8
1/2"	28.6	96.5	100.0	64.0	26.2	36.0
3/8"	19.8	82.5	100.0	58.1	5.9	41.9
#4	3.5	22.1	97.1	42.5	15.6	57.5
#8	2.0	8.7	81.1	34.0	8.5	66.0
#16	1.8	4.6	63.0	26.3	7.7	73.7
#30	1.7	3.6	46.0	19.4	6.9	80.6
#50	1.6	3.3	23.9	10.6	8.8	89.4
#100	1.6	3.1	5.5	3.3	7.3	96.7
LBW	1.4	2.6	0.7	1.2	2.1	98.8

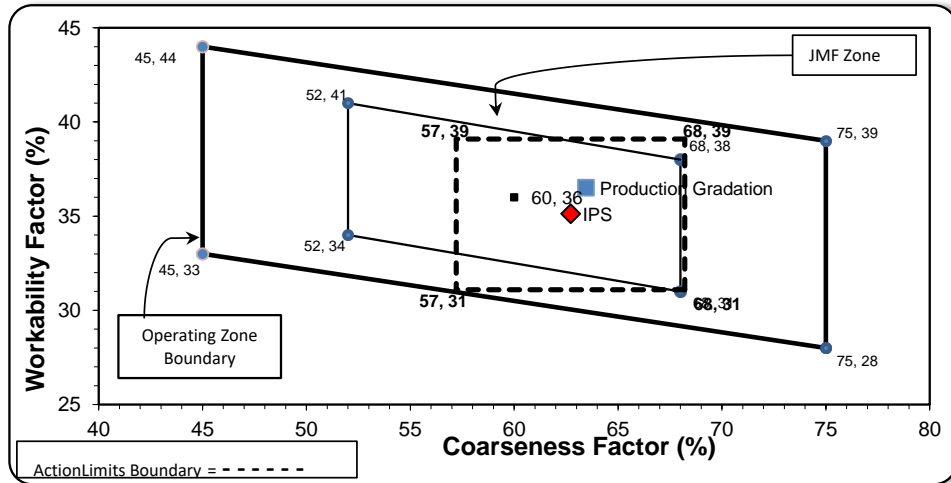
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	63	Workability Factor:	34	36.5
---------------------------	-----------	----------------------------	-----------	-------------

Coarseness Factor:	63
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"	95.1	4.9	4.9
1/2"	74.6	20.5	25.4
3/8"	59.3	15.3	40.7
#4	42.1	17.2	57.9
#8	35.1	7.1	64.9
#16	29.2	5.9	70.8
#30	21.9	7.3	78.1
#50	9.6	12.4	90.4
#100	2.4	7.2	97.6
LBW	0.9	1.5	99.1



PREPARED BY:
 SM, LLC Technical Service

Approved By: