Sample Date:

5/22/23 Concrete Grade: S2M, 3500HP

Dates Test Represents:		5/23/2023	through	5/29/2023		
Agg. Clas	s Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1575	9.63	2.62	51.6
26A	71-47	Presque Isle	250	1.53	2.62	8.2
2NS	75-051	Mid Michigan	1230	7.41	2.66	40.3
	<u> </u>	Total Wt	3055	18.57		100.0

Contractor:

MDOT No.:



tive	Superior Materials, LLC
ned	30701 W. 10 Mile Rd.
	Suite 500
	Fauncin at an Hille MI 4022C

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.

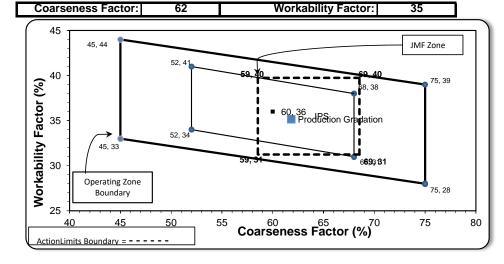
\*% Retained must be at least 8% for the 1" sieve when

a 2" max. size (nom. Max. 1.5") aggregate is used.

То		Total Wt 3055 18.57		100.0	< Verify this number is 100%	
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	0 100.0	100.0	0.0	0.0
1.5"	100.0	100.0	0 100.0	100.0	0.0	0.0
1"	97.1	100.0	0 100.0	98.5	1.5	1.5
3/4"	80.9	100.0	0 100.0	90.2	8.4	9.8
1/2"	41.6	96.1	100.0	69.6	20.6	30.4
3/8"	24.2	87.7	100.0	59.9	9.7	40.1
#4	4.6	23.2	97.5	43.5	16.4	56.5
#8	2.4	6.2	83.0	35.2	8.4	64.8
#16	2.0	3.4	68.4	28.8	6.3	71.2
#30	1.9	2.9	52.0	22.2	6.7	77.8
#50	1.8	2.7	26.4	11.8	10.4	88.2
#100	1.7	2.5	7.3	4.0	7.8	96.0
LBW	1.5	2.3	1.0	1.4	2.7	98.6

**Production Gradation** 

Aggregate Supplier Gradations



Initial Production Sample (IPS)

Coar	seness Factor:	64	
Wor	kability Factor:	35	
Siovo	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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"	93.9	6.1	6.1
1/2"	71.4	22.5	28.6
3/8"	59.0	12.4	41.0
#4	45.1	13.9	54.9
#8	35.5	9.6	64.5
#16	28.3	7.2	71.7
#30	21.3	6.9	78.7
#50	11.0	10.3	89.0
#100	3.4	7.6	96.6
LBW	1.1	2.3	98.9

PREPARED BY: SM, LLC Technical Service Approved By:

Sample Date:

Concrete Grade: S2M, 3500HP 5/22/23

Dates Test Represents:		5/23/2023	through	5/29/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1725	10.28	2.69	55.6
26A	58-003	Stoneco	175	1.04	2.69	5.6
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7

Contractor:

MDOT No.:



	Retained	Cumulative % Retained	
--	----------	--------------------------	--

Suite 500

Farmington Hills, MI 48336

Total Wt		3100	18.58		100.0	< Verify this n	umber is 100%
Sieve	6AA	26A		2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	10	0.0	100.0	100.0	0.0	0.0
1.5"	100.0	10	0.0	100.0	100.0	0.0	0.0
1"	99.7	10	100.0		99.8	0.2	0.2
3/4"	81.6	10	0.0	100.0	89.8	10.1	10.2
1/2"	46.4	99.7		100.0	70.2	19.6	29.8
3/8"	21.2	87.6		100.0	55.5	14.7	44.5
#4	2.2	16.3		98.9	40.4	15.0	59.6
#8	1.1	4.8		84.3	33.5	6.9	66.5 r
#16	0.6	2.7		66.0	26.0	7.5	74.0
#30	0.6	2.1		45.6	18.1	7.9	81.9 r
#50	0.6	1.9		20.3	8.3	9.8	91.7
#100	0.6	1.	.8	5.0	2.4	5.9	97.6
LBW	0.8	1.	.7	1.2	1.0	1.4	99.0

\*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.

Coarseness Factor: 67 Workability Factor:	34
35	75, 39 ion Gradation
40 45 50 55 Coarseness Factor (%) Coarseness Factor (%)	75 80

Intial Production Sample (IPS)

Coar	seness Factor:	63	
Wor	kability Factor:	36	
Siovo	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.2	0.8	0.8
3/4"	90.9	8.3	9.1
1/2"	71.3	19.6	28.7
3/8"	59.5	11.8	40.5
#4	43.8	15.7	56.2
#8	35.7	8.1	64.3
#16	27.0	8.7	73.0
#30	18.6	8.4	81.4
#50	6.8	11.8	93.2
#100	1.4	5.4	98.6
LBW	0.6	0.8	99.4

**Total Wt** 

PLANT #: P-103

Sample Date:

5/22/23 Concrete Grade: **S2M**, **3500HP** 

18.58

Dates Test Represents:		5/23/2023	tnrougn	5/29/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1725	10.28	2.69	55.6
26A	58-003	Stoneco	175	1.04	2.69	5.6
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7

3100

Contractor:

MDOT No.:

<---- Verify this number is 100%

ained	Cumulative % Retained	Superior Materials, LLC
.0	0.0	Suite 500

Farmington Hills, MI 48336

Sieve	6AA	26A	2NS	% Passing	% Retained	% Retained	
2"	100.0	100.0	100.0	100.0	0.0	0.0	ı
1.5"	100.0	100.0	100.0	100.0	0.0	0.0	ı
1"	99.7	100.0	100.0	99.8	0.2	0.2	ı
3/4"	81.6	100.0	100.0	89.8	10.1	10.2	ı
1/2"	46.4	99.7	100.0	70.2	19.6	29.8	ı
3/8"	21.2	87.6	100.0	55.5	14.7	44.5	ı
#4	2.2	16.3	98.9	40.4	15.0	59.6	ı
#8	1.1	4.8	84.3	33.5	6.9	66.5	n
#16	0.6	2.7	66.0	26.0	7.5	74.0	ı
#30	0.6	2.1	45.6	18.1	7.9	81.9	n
#50	0.6	1.9	20.3	8.3	9.8	91.7	ı
#100	0.6	1.8	5.0	2.4	5.9	97.6	а

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

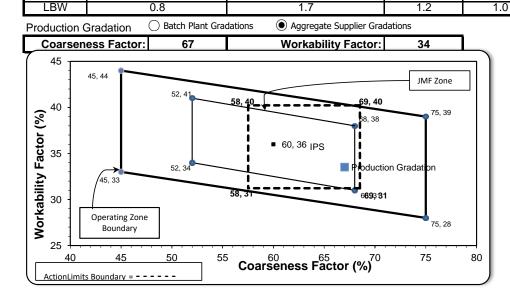
nom. max., #100 and #200 sieves.

 $\ensuremath{^{*}\%}$  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.



Intial Production Sample (IPS)

Coarseness Factor:		63	
Work	ability Factor:	36	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.2	0.8	0.8
3/4"	90.9	8.3	9.1
1/2"	71.3	19.6	28.7
3/8"	59.5	11.8	40.5
#4	43.8	15.7	56.2
#8	35.7	8.1	64.3
#16	27.0	8.7	73.0
#30	18.6	8.4	81.4
#50	6.8	11.8	93.2
#100	1.4	5.4	98.6
LBW	0.6	0.8	99.4

PREPARED BY: SM, LLC Technical Service Approved BY:

PLANT #: 14 Contractor:

Sample Date: 5/22/23 Concrete Grade: S2M, 3500HP

Dates Test Represents: 5/23/2023 through 5/29/2023 MDOT No

				0,-0,-0-0		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1700	10.13	2.69	54.7
26A	58-003	Stoneco	200	1.19	2.69	6.4
2NS	19-04	Schlegel	1210	7.26	2.67	38.9
		Total Wt	3110	18.58		100.0

MDOT No.:



---- Verify this number is 100%

<b>Builders Redi-Mix</b>
30701 W. 10 Mile Rd.
Suite 500

Farmington Hills, MI 48336

	TOtal Wt	3110 10.30		100.0	< verily trils if	umber 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"	99.7	100.0	100.0	99.8	0.2	0.2
3/4"	81.6	100.0	100.0	89.9	9.9	10.1
1/2"	46.4	99.7	100.0	70.7	19.3	29.3
3/8"	21.2	87.6	100.0	56.1	14.6	43.9
#4	2.2	16.3	99.9	41.1	15.0	58.9
#8	1.1	4.8	90.1	36.0	5.2	64.0 r
#16	0.6	2.7	69.4	27.5	8.5	72.5
#30	0.6	2.1	44.5	17.8	9.7	82.2 r
#50	0.6	1.9	14.3	6.0	11.8	94.0
#100	0.6	1.8	2.7	1.5	4.5	98.5 a
LBW	0.8	1.7	0.2	0.6	0.9	99.4

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

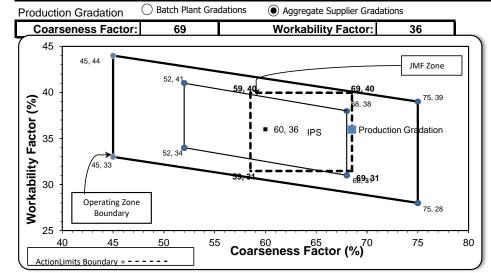
nom. max., #100 and #200 sieves.

 $\ensuremath{^{*}\%}$  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.



Intial Production Sample (IPS)

Coars	eness Factor:	64	
Work	ability Factor:	36	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.2	0.8	0.8
3/4"	90.9	8.3	9.1
1/2"	71.3	19.6	28.7
3/8"	59.2	12.1	40.8
#4	41.5	17.7	58.5
#8	35.7	5.8	64.3
#16	27.9	7.9	72.1
#30	18.3	9.5	81.7
#50	7.3	11.0	92.7
#100	2.0	5.3	98.0
LBW	0.9	1.1	99.1

PREPARED BY: SM, LLC Technical Service Approved By:

PLANT #: 12

Sample Date:

Concrete Grade: S2M, 3500HP 5/22/23

JE.	OZIVI,	0000111	_
			ML

Cumulative

Dates Test F	Represents:	5/23/2023	through	5/29/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1720	10.52	2.62	56.4
26A	71-47	Presque Isle	100	0.61	2.62	3.3
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3
		Total Wt	3050	18.57		100.0

MDOT No.:

Contractor:

---- Verify this number is 100%

Cumulative

SUPERI	
Superior Materia	

Farmington Hills, MI 48336

\*Maximum % Retained must be above the 3/8" sieve.

Suite 500

\*Any two adjacent sieves must equal 10% except max.,

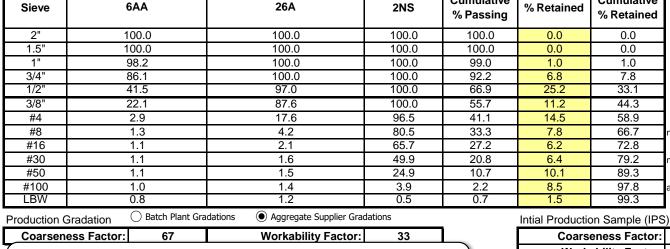
nom. max., #100 and #200 sieves.

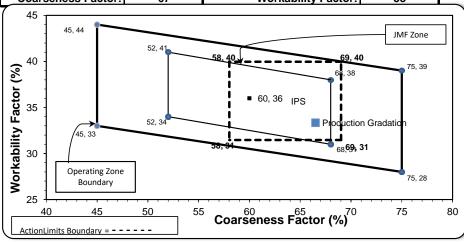
\*% Retained must be at least 4% for each sieve except max.,

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.





Coarseness Factor:		64	
Work	ability Factor:	36	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.2	0.8	0.8
3/4"	90.9	8.3	9.1
1/2"	71.3	19.6	28.7
3/8"	59.2	12.1	40.8
#4	41.5	17.7	58.5
#8	35.7	5.8	64.3
#16	27.9	7.9	72.1
#30	18.3	9.5	81.7
#50	7.3	11.0	92.7
#100	2.0	5.3	98.0
LBW	0.9	1.1	99.1

**Total Wt** 

6AA

100.0

100.0

99.3

86.9

53.2

30.7

5.0

1.8

1.4

1.3

1.3

1.2

PLANT #: p11

Sample Date:

Sieve

2"

1.5"

3/4"

1/2'

3/8'

#4

#8

#16

#30

#50

#100

5/22/23 Concrete Grade: S2M, 3500HP

18.57

Jaies Test F	represents:	5/23/2023	through	5/29/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific	%
Ayy. Class	FIL#	Source	weight (SSD)	It	Gravity	Contribution
6AA	71-47	Presque Isle	1720	10.52	2.62	56.4
26A	71-47	Presque Isle	100	0.61	2.62	3.3
2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3

26A

100.0

100.0

100.0

100.0

97.0

87.6

17.6

4.2

2.1

1.6

1.5

1.4

3050

Contractor:

MDOT No.:

13.0

18.4

6.9

6.5

8.3

10.4

6.6

Cumulative

% Passing

100.0

100.0

99.6

92.6

73.5

60.5

42.1

35.1

28.6

20.3

9.9

3.3

2NS

100.0

100.0

100.0

100.0

100.0

100.0

95.9

84.3

68.8

48.4

22.7

6.5

SUPERIO

<---- Verify this number is 100%

% Retained	Cumulative
∕o Retailleu	0/ - / -

% Retained	Cumulative % Retained
0.0	0.0
0.0	0.0
0.4	0.4
7.0	7.4
19.1	26.5

39.5

57.9

64.9

71.4

79.7

90.1

96.7

\*Maximum % Retained must be above the 3/8" sieve.

Suite 500

\*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.,

MATERIALS

Superior Materials, LLC

Farmington Hills, MI 48336

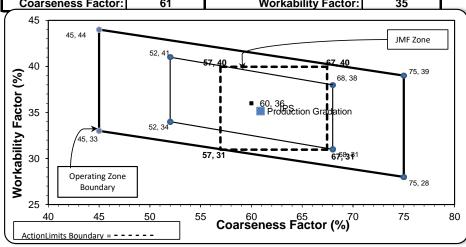
30701 W. 10 Mile Rd.

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

LBW Batch Plant Gradations Aggregate Supplier Gradations **Production Gradation** Coarseness Factor: **Workability Factor:** 61 35



Intial Production Sample (IPS)

Coars	eness Factor:	62	
Workability Factor:		35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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"	3/4" 94.0		6.0
1/2"	1/2" 70.2		29.8
3/8"	3/8" 59.9		40.1
#4	42.7	17.2	57.3
#8	35.5	7.2	64.5
#16	28.4	7.0	71.6
#30	19.2	9.2	80.8
#50	8.9	10.3	91.1
#100	3.1	5.9	96.9
LBW	1.4	1.7	98.6

Sample Date:

Concrete Grade: S2M, 3500HP

Dates Test Represents:		5/23/2023	through	5/29/2023			
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution	
6AA	71-47	Presque Isle	1720	10.52	2.62	56.4	
26A	71-47	Presque Isle	100	0.61	2.62	3.3	
2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3	

Contractor:

MDOT No.:

	IVII
%	
tribution	
56.4	
3.3	
40.3	

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

	Total Wt	3050	18.57		100.0	< Verify this n	umber is 100%
Sieve	6AA	26	6A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	10	0.0	100.0	100.0	0.0	0.0
1.5"	100.0	10	0.0	100.0	100.0	0.0	0.0
1"	99.3	10	0.0	100.0	99.6	0.4	0.4
3/4"	86.9	10	0.0	100.0	92.6	7.0	7.4
1/2"	53.2	97	7.0	100.0	73.5	19.1	26.5
3/8"	30.7	87	7.6	100.0	60.5	13.0	39.5
#4	5.0	17	<b>'</b> .6	95.9	42.1	18.4	57.9
#8	1.8	4	.2	84.3	35.1	6.9	64.9
#16	1.4	2	.1	68.8	28.6	6.5	71.4
#30	1.3	1	.6	48.4	20.3	8.3	79.7
#50	1.3	1	.5	22.7	9.9	10.4	90.1
#100	1.2	1	.4	6.5	3.3	6.6	96.7
LBW	1.1	1	.2	1.0	1.1	2.3	98.9

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

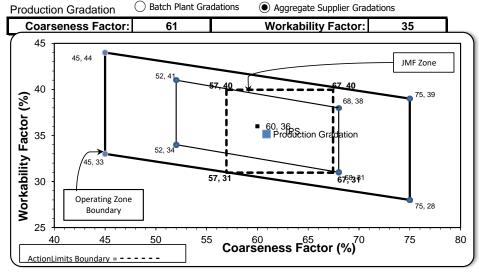
nom. max., #100 and #200 sieves.

\*% 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.



Intial Production Sample (IPS)

Coars	eness Factor:	62	
Workability Factor:		35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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"	3/4" 94.0		6.0
1/2"	1/2" 70.2		29.8
3/8"	3/8" 59.9		40.1
#4	42.7	17.2	57.3
#8	35.5	7.2	64.5
#16	28.4	7.0	71.6
#30	19.2	9.2	80.8
#50	8.9	10.3	91.1
#100	3.1	5.9	96.9
LBW	1.4	1.7	98.6

Sample Date:

5/22/23 Concrete Grade: **S2M**, **3500HP** 

Dates Test Represents:		5/23/2023	through	5/29/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1725	10.28	2.69	55.6
26A	58-003	Stoneco	175	1.04	2.69	5.6
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7
		Total Wt	3100	18.58		100.0

Contractor:

MDOT No.:



---- Verify this number is 100%

ed	Cumulative % Retained	<u>Superior Materials, LLC</u> 30701 W. 10 Mile Rd.
	0.0	Suite 500
	0.0	Farmington Hills, MI 48336

Cumulative 6AA 26A % Retaine Sieve 2NS % Passing 2" 100.0 100.0 100.0 100.0 0.0 1.5" 100.0 100.0 100.0 100.0 0.0 99.7 100.0 100.0 99.8 0.2 0.2 3/4" 81.6 100.0 100.0 89.8 10.1 10.2 1/2' 46.4 99.7 100.0 70.2 19.6 29.8 3/8' 87.6 100.0 14.7 44.5 21.2 55.5 #4 2.2 16.3 98.9 40.4 15.0 59.6 #8 1.1 4.8 84.3 33.5 6.9 66.5 #16 0.6 2.7 66.0 26.0 7.5 74.0 #30 7.9 0.6 2.1 45.6 18.1 81.9 #50 0.6 1.9 20.3 8.3 9.8 91.7 #100 0.6 1.8 5.0 2.4 5.9 97.6 LBW 1.0 1.4 99.0

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

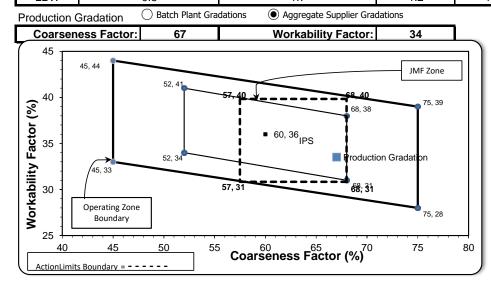
nom. max., #100 and #200 sieves.

 $^{\star}\%$  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.



Intial Production Sample (IPS)

Coars	eness Factor:	63	
Work	Workability Factor:		
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.2	0.8	0.8
3/4"	90.9	8.3	9.1
1/2"	71.3	19.6	28.7
3/8"	59.4	11.9	40.6
#4	43.0	16.5	57.0
#8	35.3	7.6	64.7
#16	28.2	7.1	71.8
#30	21.6	6.6	78.4
#50	9.1	12.5	90.9
#100	1.7	7.4	98.3
LBW	1.1	0.6	98.9

PREPARED BY: SM, LLC Technical Service Approved By

Sample Date:

5/22/23 Concrete Grade: S2M, 3500HP

Dates Test F	Represents:	5/23/2023	through	5/29/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1600	9.79	2.62	52.5
26A	71-47	Presque Isle	250	1.53	2.62	8.2
2NS	63-92	Grange Hall	1200	7.26	2.65	39.3
Total Wt		3050	18.57		100.0	

Contractor:

MDOT No.:



---- Verify this number is 100%

% Retained	Cumulative % Retained
0.0	0.0
0.0	0.0
0.9	0.9



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

\*Maximum % Retained must be above the 3/8" sieve.

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

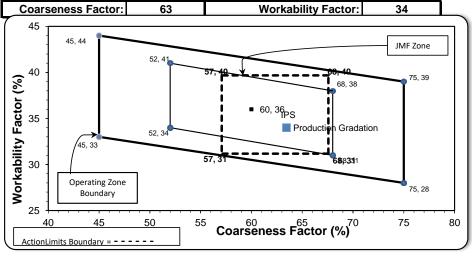
\*Any two adjacent sieves must equal 10% except max.,

a 2" max. size (nom. Max. 1.5") aggregate is used.

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"	98.2	100.0	100.0	99.1	0.9	0.9		
3/4"	86.1	100.0	100.0	92.7	6.3	7.3		
1/2"	41.5	97.0	100.0	69.1	23.6	30.9		
3/8"	22.1	87.6	100.0	58.1	10.9	41.9		
#4	2.9	17.6	97.3	41.2	16.9	58.8		
#8	1.3	4.2	83.8	34.0	7.2	66.0		
#16	1.1	2.1	69.2	28.0	6.0	72.0		
#30	1.1	1.6	50.8	20.7	7.3	79.3		
#50	1.1	1.5	21.6	9.2	11.5	90.8		
#100	1.0	1.4	3.8	2.1	7.1	97.9		
LBW	0.8	1.2	0.4	0.7	1.5	99.3		
Production (	Production Gradation Batch Plant Gradations Aggregate Supplier Gradations Intial Production Sample (IPS)							

Production Gradation

Aggregate Supplier Gradations



Intial Production Sample (IPS)

Coars	eness Factor:	62	
Work	Workability Factor:		
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.1	0.9	0.9
3/4"	90.5	8.6	9.5
1/2"	69.8	20.7	30.2
3/8"	59.8	10.0	40.2
#4	42.2	17.6	57.8
#8	35.4	6.7	64.6
#16	28.8	6.7	71.2
#30	21.4	7.4	78.6
#50	8.8	12.6	91.2
#100	1.8	7.0	98.2
LBW	0.7	1.0	99.3

Presque Isle

Krake Willis Rd

6AA

100.0

100.0

97.1

80.9

41.6

24.2

4.6

2.4

2.0

1.9

1.8

Total Wt

PLANT #: P-39

71-47

44-051

Sample Date:

26A

2NS

Sieve

2"

1.5"

3/4"

1/2'

3/8'

#4

#8

#16

#30

#50

5/22/23 Concrete Grade: S2M, 3500HP

2.62

2.65

2NS

100.0

100.0

100.0

100.0

100.0

100.0

97.0

83.8

68.6

50.2

22.4

7.5

41.0

Cumulative

% Passing

100.0

100.0

98.5

90.2

69.6

60.1

43.9

36.0

29.4

21.8

10.3

1.41

7.56

18.57

Dates Test F	Represents:	5/23/2023	through	5/29/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1570	9.60	2.62	51.5

26A

100.0

100.0

100.0

100.0

96.1

87.7

23.2

6.2

3.4

2.9

2.7

230

1250

3050

Contractor: MDOT No.:

8.3

20.5

9.6

16.2

7.8

6.6

7.6

11.5

7.0

1.9



---- Verify this number is 100%

% Retained	Cumulative % Retained
0.0	0.0
0.0	0.0
1.5	1.5

9.8

30.4

39.9

56.1

64.0

70.6

78.2

89.7

96.7



Farmington Hills, MI 48336

Superior Materials, LLC

30701 W. 10 Mile Rd.

\*Maximum % Retained must be above the 3/8" sieve.

Suite 500

\*Any two adjacent sieves must equal 10% except max.,

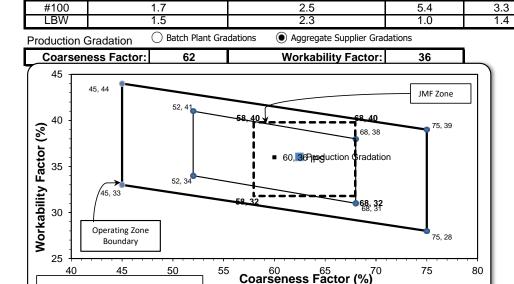
nom. max., #100 and #200 sieves.

\*% 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



Intial Production Sample (IPS)

Coars	Coarseness Factor:		
Work	Workability Factor:		
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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"	89.8	10.2	10.2
1/2"	70.7	19.1	29.3
3/8"	59.6	11.1	40.4
#4	43.2	16.4	56.8
#8	35.8	7.4	64.2
#16	29.2	6.6	70.8
#30	21.4	7.8	78.6
#50	9.8	11.6	90.2
#100	3.7	6.1	96.3
LBW	1.2	2.5	98.8

PREPARED BY: SM, LLC Technical Service

ActionLimits Boundary = - - - - -

5/22/23

**PLANT #:** P-02

Sample Date:

Concrete Grade: S2M, 3500HP

Dates Test F	Represents:	5/23/2023	through	5/29/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1720	10.52	2.62	56.4
26A	71-47	Presque Isle	100	0.61	2.62	3.3
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3
		Total Wt	3050	18.57		100.0

MDOT No.:

Contractor:

---- Verify this number is 100

0%	SUPERIOR MATERIALS
itive	Superior Materials IIC

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	ĺ
1.5"	100.0	100.0	100.0	100.0	0.0	0.0	i
1"	98.2	100.0	100.0	99.0	1.0	1.0	ı
3/4"	86.1	100.0	100.0	92.2	6.8	7.8	ı
1/2"	41.5	97.0	100.0	66.9	25.2	33.1	ı
3/8"	22.1	87.6	100.0	55.7	11.2	44.3	ı
#4	2.9	17.6	96.5	41.1	14.5	58.9	ı
#8	1.3	4.2	80.5	33.3	7.8	66.7	n
#16	1.1	2.1	65.7	27.2	6.2	72.8	i
#30	1.1	1.6	49.9	20.8	6.4	79.2	n
#50	1.1	1.5	24.9	10.7	10.1	89.3	ĺ
#100	1.0	1.4	3.9	2.2	8.5	97.8	а
I B/W	Λ Q	1.2	0.5	0.7	1.5	00.3	1

\*Maximum % Retained must be above the 3/8" sieve.

\*Any two adjacent sieves must equal 10% except max.,

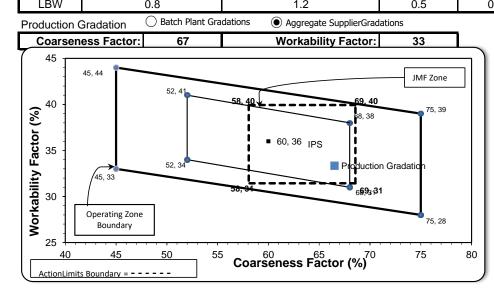
nom. max., #100 and #200 sieves.

\*% 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.



Intial Production Sample (IPS)

Coars	Coarseness Factor:		
Work	Workability Factor:		
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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"	95.6	4.4	4.4
1/2"	73.1	22.6	26.9
3/8"	59.3	13.8	40.7
#4	42.8	16.5	57.2
#8	35.7	7.1	64.3
#16	28.9	6.8	71.1
#30	20.7	8.2	79.3
#50	9.9	10.8	90.1
#100	2.1	7.8	97.9
LBW	0.9	1.2	99.1