Sample Date:

8/21/23 Concrete Grade: S2M, 3500HP

Dates Test Represents:		8/22/2023	through	8/28/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1625	9.94	2.62	53.2
26A	71-47	Presque Isle	200	1.22	2.62	6.5
2NS	75-051	Mid Michigan	1230	7.41	2.66	40.3
		T-4-1 \A/4	2055	10 E7		100.0

Contractor:

MDOT No.:



lative ained	<u>Superior Materials, LLC</u> 30701 W. 10 Mile Rd.
.0	Suite 500
.0	Farmington Hills, MI 48336

	i otai wt	3055	18.5 <i>1</i>		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"	96.7	10	0.0	100.0	98.2	1.8	1.8
3/4"	84.6	10	0.0	100.0	91.8	6.4	8.2
1/2"	41.8	93	3.4	100.0	68.6	23.2	31.4
3/8"	24.5	80	).7	100.0	58.6	10.0	41.4
#4	4.2	14	l.3	96.1	41.9	16.7	58.1
#8	2.3	2	.5	79.7	33.5	8.4	66.5
#16	2.0	1.	.2	64.6	27.2	6.3	72.8
#30	2.0	2	.0	49.3	21.0	6.1	79.0
#50	1.9	0.	.9	26.6	11.8	9.3	88.2
#100	1.8	0	.9	7.9	4.2	7.6	95.8
LBW	1.5	0.	.8	1.1	1.3	2.9	98.7

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

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

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

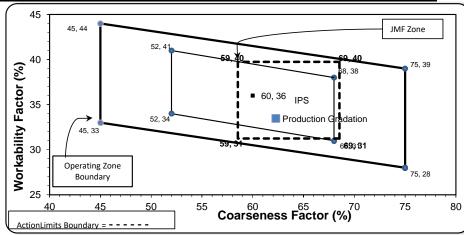
\*% Retained must be at least 4% for each sieve except max.,

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.

 Batch Plant Gradations Aggregate Supplier Gradations **Production Gradation** Coarseness Factor: 62 Workability Factor: 33



Initial Production Sample (IPS)

Coars	eness Factor:	64	
Work	ability 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"	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

Approved By: PREPARED BY: SM, LLC Technical Service

Sample Date:

8/21/23 Concrete Grade: S2M, 3500HP

Dates Test Represents:		8/22/2023	through	8/28/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1650	9.83	2.69	53.2
26A	58-003	Stoneco	250	1.49	2.69	8.1
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7

MDOT No.:

Contractor:



ulative tained	Superior Materials, LLC
0.0	Suite 500
0.0	Farmington Hills, MI 48336

	i otai wt	3100 18.58			100.0	< Verify this number 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"	100.0	10	0.0	100.0	100.0	0.0	0.0
3/4"	80.9	10	0.0	100.0	89.8	10.2	10.2
1/2"	42.3	10	0.0	100.0	69.3	20.5	30.7
3/8"	22.1	89	).4	100.0	57.7	11.6	42.3
#4	4.0	11	.4	97.7	40.9	16.8	59.1
#8	1.9	4	.0	81.2	32.8	8.1	67.2
#16	1.8	3	.0	63.9	25.9	6.8	74.1
#30	1.8	2	.5	45.0	18.6	7.4	81.4
#50	1.7	2.	.3	22.0	9.6	9.0	90.4
#100	1.7	2	.2	6.3	3.5	6.1	96.5
LBW	1.1	1.	.4	1.2	1.2	2.4	98.8

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

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

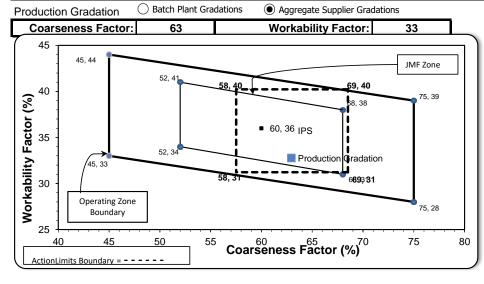
nom. max., #100 and #200 sieves.

\*% 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.



Intial Production Sample (IPS)

Coars	eness 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:

6AA

100.0

100.0

100.0

80.9

42.3

22.1

4.0

1.9

1.8

1.8

1.7

1.7

Sample Date:

Sieve

2"

1.5"

3/4"

1/2'

3/8'

#4

#8

#16

#30

#50

#100

Concrete Grade: S2M, 3500HP

8/21/23 Dates Test Represents: 8/22/2023 8/28/2023 through

Dates rest represents.		0/22/2020	unougn	0/20/2020		
Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1650	9.83	2.69	53.2
26A	58-003	Stoneco	250	1.49	2.69	8.1
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7
		Total Wt	3100	18.58		100.0

26A

100.0

100.0

100.0

100.0

100.0

89.4

11.4

4.0

3.0

2.5

2.3

2.2

Contractor:

0.0

10.2

30.7

42.3

59.1

67.2

74.1

81.4

90.4

96.5

MDOT No.:

---- Verify this number is 100%

0.0

10.2

20.5

11.6

16.8

8.1

6.8

7.4

9.0

6.1

2.4

Cumulative

% Passing

100.0

100.0

100.0

89.8

69.3

57.7

40.9

32.8

25.9

18.6

9.6

3.5

2NS

100.0

100.0

100.0

100.0

100.0

100.0

97.7

81.2

63.9

45.0

22.0

6.3

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

Farmington Hills, MI 48336

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

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

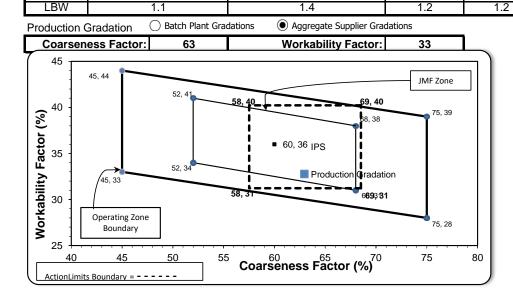
nom. max., #100 and #200 sieves.

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

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

\*% Retained must be at least 4% for the 3/4" sieve when

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



Intial Production Sample (IPS)

Coars	eness 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 #: Contractor: 8/21/23 Concrete Grade: S2M, 3500HP Sample Date:

Dates Test Represents:		8/22/2023	through	8/28/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1575	9.38	2.69	50.6
26A	58-003	Stoneco	325	1.94	2.69	10.5
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%

## **Builders Redi-Mix**

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	ı
1.5"	100.0	100.0	100.0	100.0	0.0	0.0	ı
1"	100.0	100.0	100.0	100.0	0.0	0.0	
3/4"	80.9	100.0	100.0	90.3	9.7	9.7	
1/2"	42.3	100.0	100.0	70.8	19.5	29.2	ı
3/8"	22.1	89.4	100.0	59.4	11.3	40.6	ı
#4	4.0	11.4	99.9	42.1	17.4	57.9	ı
#8	1.9	4.0	90.1	36.4	5.6	63.6	n
#16	1.8	3.0	69.4	28.2	8.2	71.8	ı
#30	1.8	2.5	44.5	18.5	9.7	81.5	n
#50	1.7	2.3	14.3	6.7	11.8	93.3	l
#100	1.7	2.2	2.7	2.1	4.5	97.9	а

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

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

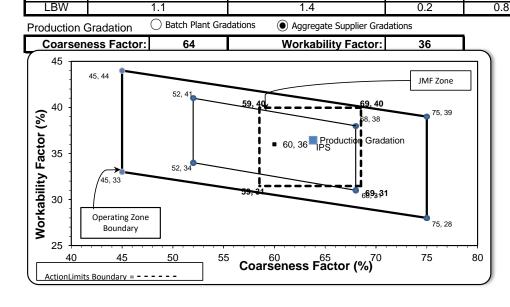
nom. max., #100 and #200 sieves.

\*% 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.



## Intial Production Sample (IPS)

Coars	eness Factor:	64	
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"	59.2	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

PLANT #: 12

Sample Date:

Sieve

2"

1.5"

3/4"

1/2'

3/8'

#4

#8

#16

#30

#50

#100

LBW

Dates Test Represents:

8/21/23 8/22/2023

6AA

100.0

100.0

98.8

82.2

43.0

23.6

4.5

2.2

2.0

1.8

1.8

1.7

Contractor:

Concrete Grade: S2M, 3500HP

2NS

100.0

100.0

100.0

100.0

100.0

100.0

96.4

81.8

66.7

50.4

25.6

5.0

Cumulative

% Passing

100.0

100.0

99.4

90.5

69.5

58.8

43.4

34.7

28.2

21.4

11.4

3.1

1.1

Agg. Class Pit #		0,22,2020	11104g11 0/20/2020			
		Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1620	9.91	2.62	53.1
26A	71-47	Presque Isle	200	1.22	2.62	6.6
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3
		Total Wt	3050	18.57		100.0

26A

100.0

100.0

100.0

100.0

96.5

90.3

32.8

8.8

3.5

2.4

2.2

2.0

1.8

through

8/28/2023

MDOT No.:

Cumulative

% Retained

0.0

78.6

88.6

96.9

98.9

----- Verify this number is 100%

% Retained

0.0

0.0

0.6

8.8

21.1

10.7

15.4

8.7

6.5

6.8

10.0

8.4

1.9

SUPERIOR	
MATERIALS	

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

0.0	
0.6	
9.5	
30.5	
41.2	*Maxim
56.6	*Any tw
65.3	nom. ma
71.8	*% Reta

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

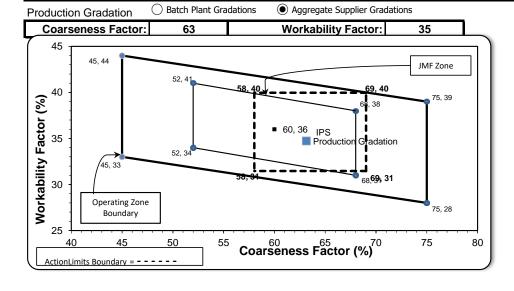
Any two adjacent sieves must equal 10% except max.,

om. 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.



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"	99.2	0.8	8.0
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 #:** 20

Sample Date:

8/21/23

Contractor:

Concrete Grade: S2M, 3500HP

MDOT No.:

Dates Test Represents:		8/22/2023	through	8/28/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1650	10.09	2.62	54.1
26A	71-47	Presque Isle	150	0.92	2.62	4.9
2NS	63-92	Grange Hall	1250	7.56	2.65	41.0
		Total Wt	3050	18 57		100.0

· ·	

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	6 <b>A</b>	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"	98.3	10	0.0	100.0	99.1	0.9	0.9
3/4"	86.7	10	0.0	100.0	92.8	6.3	7.2
1/2"	53.0	97	7.5	100.0	74.5	18.4	25.5
3/8"	32.0	87	7.2	100.0	62.6	11.9	37.4
#4	6.8	20	).2	97.6	44.7	17.9	55.3
#8	3.1	5	.8	83.3	36.1	8.6	63.9
#16	2.6	2	.6	68.6	29.6	6.5	70.4
#30	2.4	2	.0	49.3	21.6	8.0	78.4
#50	2.2	1	.8	19.8	9.4	12.2	90.6
#100	2.2	1	.7	2.8	2.4	7.0	97.6
LBW	2.0	1	.6	0.4	1.3	1.1	98.7
	_	0	•	•			

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

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

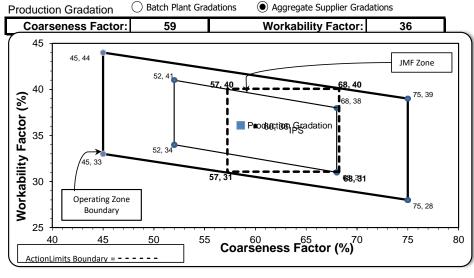
nom. max., #100 and #200 sieves.

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

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

\*% Retained must be at least 4% for the 3/4" sieve when

a 1.5" max. size (nom. Max. 1.0") 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"	93.3	6.7	6.7
1/2"	70.6	22.6	29.4
3/8"	59.6	11.0	40.4
#4	43.9	15.7	56.1
#8	35.6	8.4	64.4
#16	28.4	7.2	71.6
#30	19.4	9.0	80.6
#50	7.5	11.9	92.5
#100	0.9	6.6	99.1
LBW	0.9	0.1	99.1

PLANT #: p11

6AA

100.0

100.0

98.1

86.7

43.9

27.4

5.2

2.5

2.2

2.1

2.0

1.9

Sample Date:

Sieve

2"

1.5"

3/4"

1/2'

3/8'

#4

#8

#16

#30

#50

#100

8/21/23 Concrete Grade: S2M, 3500HP

Dates Test Represents:		8/22/2023	through	8/28/2023			
	Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
	6AA	71-47	Presque Isle	1500	9.17	2.62	49.2
	26A	71-47	Presque Isle	320	1.96	2.62	10.5
	2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3
			Total Wt	3050	18.57		100.0

26A

100.0

100.0

100.0

100.0

96.5

90.3

32.8

8.8

3.5

2.4

2.2

2.0

MDOT No.:

Cumulative

% Retained

0.0

0.0

0.9

6.5

28.0

36.7

55.2

63.6

70.3

78.6

89.3

96.1

98.6

---- Verify this number is 100%

Contractor:

% Retained

0.0

0.0

0.9

5.6

21.4

8.8

18.5

8.4

6.7

8.3

10.7

6.8

2.5

Cumulative

% Passing

100.0

100.0

99.1

93.5

72.0

63.3

44.8

36.4

29.7

21.4

10.7

3.9

2NS

100.0

100.0

100.0

100.0

100.0

100.0

96.1

84.8

70.0

49.9

23.6

6.9

SUPERIOR MATERIALS	

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

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

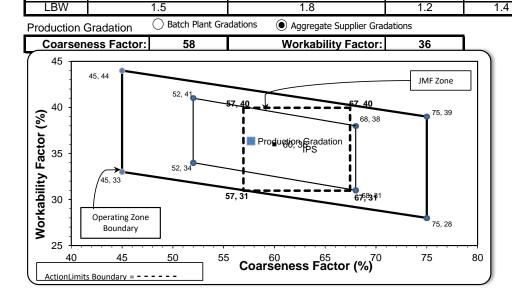
\*Any two adjacent sieves must equal 10% except max.,

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 4% for the 3/4" sieve when

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



Intial Production Sample (IPS)

Coarseness 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"	94.0	6.0	6.0
1/2"	70.2	23.7	29.8
3/8"	59.9	10.4	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:

8/21/23 Concrete Grade: S2M, 3500HP

Dates Test F	Represents:	8/22/2023	through	8/28/2023			
Agg. Class	Pit#	Source	Weight (SSD) ft <sup>3</sup> Specific		Weight (SSD)	Specific	%
Agg. Class	FIL#	Source	Weight (SSD)	11	Gravity	Contribution	
6AA	71-47	Presque Isle	1500	9.17	2.62	49.2	
26A	71-47	Presque Isle	320	1.96	2.62	10.5	
2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3	
		Total Wt	3050	18.57		100.0	

Contractor:

MDOT No.:



---- Verify this number is 100%

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

	Total Wt	3030 10.37	1	100.0	C Verily tills if	ulliber 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"	98.1	100.0	100.0	99.1	0.9	0.9
3/4"	86.7	100.0	100.0	93.5	5.6	6.5
1/2"	43.9	96.5	100.0	72.0	21.4	28.0
3/8"	27.4	90.3	100.0	63.3	8.8	36.7
#4	5.2	32.8	96.1	44.8	18.5	55.2
#8	2.5	8.8	84.8	36.4	8.4	63.6
#16	2.2	3.5	70.0	29.7	6.7	70.3
#30	2.1	2.4	49.9	21.4	8.3	78.6
#50	2.0	2.2	23.6	10.7	10.7	89.3
#100	1.9	2.0	6.9	3.9	6.8	96.1
LBW	1.5	1.8	1.2	1.4	2.5	98.6

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

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

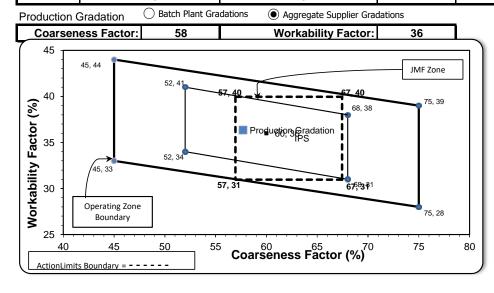
nom. max., #100 and #200 sieves.

\*% 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.



Intial Production Sample (IPS)

Coarseness 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"	94.0	6.0	6.0
1/2"	70.2	23.7	29.8
3/8"	59.9	10.4	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:

8/21/23 Concrete Grade: S2M, 3500HP

Dates Test F	Represents:	8/22/2023	through	8/28/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1650	9.83	2.69	53.2
26A	58-003	Stoneco	250	1.49	2.69	8.1
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7
		Tatal M/4	2400	40 F0		400.0

Contractor:

MDOT No.:

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

	Total Wt	3100	18.58		100.0	< Verify this n	umber is 100%
Sieve	6AA	26	6 <b>A</b>	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"	100.0	10	0.0	100.0	100.0	0.0	0.0
3/4"	80.9	10	0.0	100.0	89.8	10.2	10.2
1/2"	42.3	10	0.0	100.0	69.3	20.5	30.7
3/8"	22.1	89	9.4	100.0	57.7	11.6	42.3
#4	4.0	11	.4	97.7	40.9	16.8	59.1
#8	1.9	4	.0	81.2	32.8	8.1	67.2
#16	1.8	3	.0	63.9	25.9	6.8	74.1
#30	1.8	2	.5	45.0	18.6	7.4	81.4
#50	1.7	2	.3	22.0	9.6	9.0	90.4
#100	1.7	2	.2	6.3	3.5	6.1	96.5
LBW	1.1	1	.4	1.2	1.2	2.4	98.8

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

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

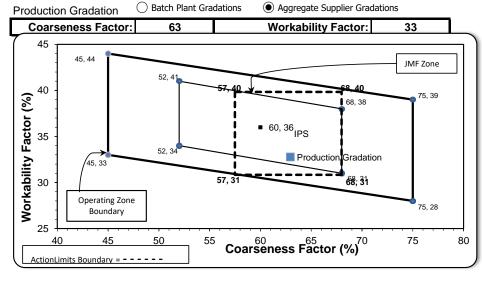
nom. max., #100 and #200 sieves.

\*% 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.



Intial Production Sample (IPS)

Coarseness Factor:		63	
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"	99.2	0.8	8.0
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

Approved By: PREPARED BY: SM, LLC Technical Service

Concrete Grade: S2M, 3500HP

8/21/23 Sample Date: Dates Test Represents: 8/22/2023

8/28/2023 through

Dates Test I	represents.	0/22/2020	tillough	0/20/2020		
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

MDOT No.:

Contractor:

---- Verify this number is 100%

d	Cumulative % Retained	
	0.0	Suite 500
	0.0	Farmington Hills, MI 48336

3050 18.57 Cumulative 6AA 26A % Retained 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 0.0 98.8 100.0 100.0 99.4 0.6 0.6 3/4" 82.2 100.0 100.0 90.7 8.7 9.3 1/2' 43.0 96.5 100.0 69.8 20.9 30.2 3/8' 23.6 90.3 100.0 10.7 40.9 59.1 #4 4.5 32.8 97.6 43.4 15.7 56.6 #8 2.2 8.8 83.3 34.6 8.8 65.4 #16 2.0 3.5 68.6 28.3 6.3 71.7 #30 20.5 79.5 1.8 2.4 49.3 7.8 #50 1.8 2.2 19.8 8.9 11.6 91.1 #100 2.2 1.7 2.0 2.8 6.8 97.8 LBW 1.8 1.0 99.0

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

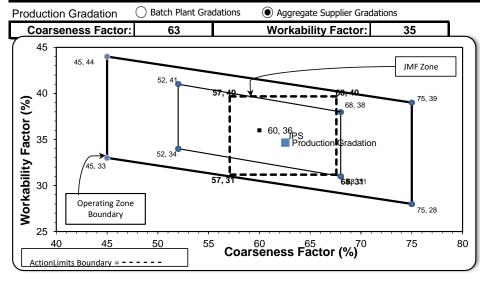
\*Any two adjacent sieves must equal 10% except max.,

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 4% for the 3/4" sieve when

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



## Intial Production Sample (IPS)

Coarseness Factor:		62	
Work	ability 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"	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

Sample Date:

8/21/23 Concrete Grade: **S2M**, **3500HP** 

Dates Test I	Represents:	0/22/2023	through	8/28/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific	%
Agg. Olass	110#	Oodroc	Weight (33b)		Gravity	Contribution
6AA	58-003	Stoneco	1650	9.83	2.69	53.2
26A	58-003	Stoneco	250	1.49	2.69	8.1
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%

ned	Cumulative % Retained	JUDELIUL IVIALELIAIS. LLC
	0.0	Suite 500
	0.0	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"	80.9	100.0	100.0	89.8	10.2	10.2
1/2"	42.3	100.0	100.0	69.3	20.5	30.7
3/8"	22.1	89.4	100.0	57.7	11.6	42.3
#4	4.0	11.4	97.7	40.9	16.8	59.1
#8	1.9	4.0	81.2	32.8	8.1	67.2
#16	1.8	3.0	63.9	25.9	6.8	74.1
#30	1.8	2.5	45.0	18.6	7.4	81.4
#50	1.7	2.3	22.0	9.6	9.0	90.4
#100	1.7	2.2	6.3	3.5	6.1	96.5
LBW	1.1	1.4	1.2	1.2	2.4	98.8

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

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

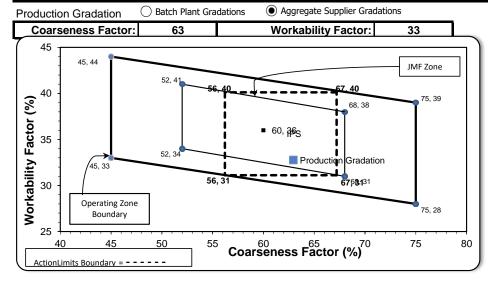
nom. max., #100 and #200 sieves.

\*% 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.



Intial Production Sample (IPS)

Coars	eness Factor:	62	
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"	91.1	8.1	8.9
1/2"	72.0	19.1	28.0
3/8"	60.3	11.7	39.7
#4	43.4	16.9	56.6
#8	35.6	7.8	64.4
#16	28.4	7.2	71.6
#30	21.8	6.7	78.2
#50	9.1	12.6	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:

8/21/23 Concrete Grade: S2M, 3500HP 8/28/2023

Dates Test F	Represents:	8/22/2023	through	8/28/2023		
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	200	1.22	2.62	6.6
2NS	44-051	Krake Willis Rd	1250	7.56	2.65	41.0
		T-4-1 \A/4	2050	40 E7		400.0

Contractor:

MDOT No.:





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	6 <b>A</b>	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"	96.7	10	0.0	100.0	98.3	1.7	1.7
3/4"	84.6	10	0.0	100.0	91.9	6.3	8.1
1/2"	41.8	93	3.4	100.0	69.0	22.9	31.0
3/8"	24.5	80	).7	100.0	59.1	9.9	40.9
#4	4.2	14	1.3	99.0	43.7	15.4	56.3
#8	2.3	2	.5	85.0	36.2	7.5	63.8
#16	2.0	1	.2	67.9	29.0	7.3	71.0
#30	2.0	2	.0	50.6	21.9	7.0	78.1
#50	1.9	0	.9	23.1	10.5	11.4	89.5
#100	1.8	0	.9	5.8	3.4	7.1	96.6
LBW	1.5	0	.8	1.0	1.2	2.1	98.8

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

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

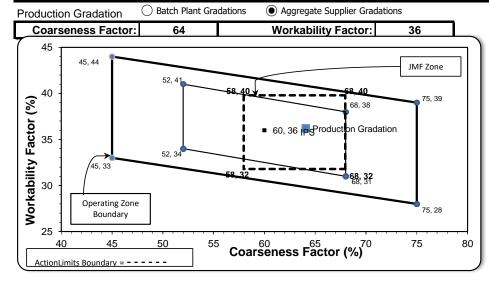
nom. max., #100 and #200 sieves.

\*% 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.



Intial Production Sample (IPS)

Coars	eness 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"	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 Approved By:

Sample Date:

6AA 26A 2NS Concrete Grade: S2M, 3500HP

Dates Test F	Represents:	8/22/2023	through	8/28/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1620	9.91	2.62	53.1
26A	71-47	Presque Isle	200	1.22	2.62	6.6
2NC	63-115	Pay Pd	1230	7 11	2.65	40.3

Contractor:

MDOT No.:



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	i <b>A</b>	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"	98.8	100	0.0	100.0	99.4	0.6	0.6
3/4"	82.2	100	0.0	100.0	90.5	8.8	9.5
1/2"	43.0	96	5.5	100.0	69.5	21.1	30.5
3/8"	23.6	90	).3	100.0	58.8	10.7	41.2
#4	4.5	32	2.8	96.4	43.4	15.4	56.6
#8	2.2	8.	.8	81.8	34.7	8.7	65.3
#16	2.0	3.	5	66.7	28.2	6.5	71.8
#30	1.8	2.	4	50.4	21.4	6.8	78.6
#50	1.8	2.	2	25.6	11.4	10.0	88.6
#100	1.7	2.	.0	5.0	3.1	8.4	96.9
LBW	1.4	1.	.8	0.7	1.1	1.9	98.9

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

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

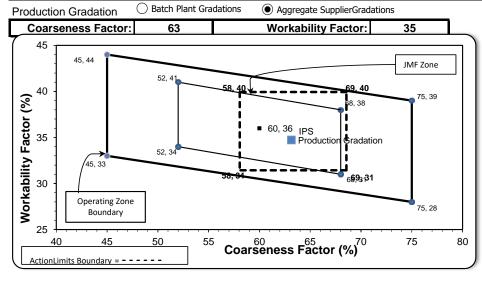
nom. max., #100 and #200 sieves.

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

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

\*% Retained must be at least 4% for the 3/4" sieve when

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



Intial Production Sample (IPS)

Coars	eness 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"	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

PREPARED BY: SM, LLC Technical Service Approved By: