Sample Date:

10/16/23 Concrete Grade: **S2M**, **3500HP**

Jates Test F	Represents:	10/17/2023	through	10/23/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1600	9.79	2.62	52.4
26A	71-47	Presque Isle	225	1.38	2.62	7.4
2NS	75-051	Mid Michigan	1230	7.41	2.66	40.3
		Total Wt	3055	18.57		100.0

Contractor:

MDOT No.:



---- Verify this number is 100%

ined	Cumulative % Retained	
	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"	85.0	100.0	100.0	92.1	7.9	7.9
1/2"	39.1	96.1	100.0	67.8	24.3	32.2
3/8"	23.5	85.9	100.0	58.9	8.9	41.1
#4	3.7	20.4	96.0	42.1	16.8	57.9
#8	2.3	5.2	80.5	34.0	8.1	66.0
#16	2.1	2.5	65.7	27.7	6.3	72.3
#30	2.0	1.9	51.1	21.8	6.0	78.2
#50	1.9	1.7	26.6	11.8	9.9	88.2
#100	1.9	1.6	6.9	3.9	7.9	96.1
LBW	1.6	1.4	1.0	1.3	2.5	98.7

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

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

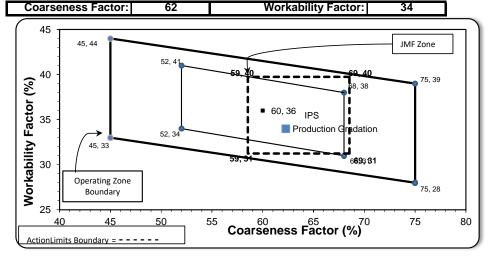
nom. max., #100 and #200 sieves.

*% 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.



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

PREPARED BY: SM, LLC Technical Service

Approved By:

PLANT #: P-102

Sample Date:

10/16/23 Concrete Grade: **S2M, 3500HP**

Dates Test Represents:		10/17/2023	through	10/23/2023			
	Agg. Class	Pit #	Source Weight (SSD)		ft ³	Specific	%
	00			• , ,	· ·	Gravity	Contribution
	6AA	58-003	Stoneco	1550	9.23	2.69	50.0
	26A	58-003	Stoneco	350	2.09	2.69	11.3
	2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7
			Total Wt	3100	18.58		100.0

·

MDOT No.:

Contractor:



---- Verify this number is 100%

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

TOTAL VVI		3100 10.30		100.0	< verily this number 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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	87.9	100.0	100.0	94.0	6.1	6.1
1/2"	49.5	100.0	100.0	74.8	19.2	25.3
3/8"	22.6	83.2	100.0	59.4	15.3	40.6
#4	3.2	8.5	98.9	40.8	18.6	59.2
#8	1.8	3.1	86.4	34.7	6.1	65.3
#16	1.4	2.6	68.4	27.5	7.2	72.5
#30	1.0	2.2	47.6	19.2	8.3	80.8
#50	0.8	2.2	23.0	9.6	9.6	90.4
#100	0.8	2.1	4.4	2.3	7.2	97.7
LBW	1.1	2.0	0.4	0.9	1.4	99.1

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

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

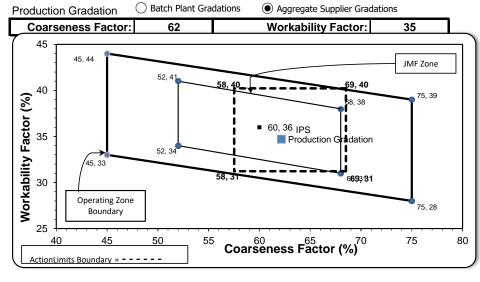
nom. max., #100 and #200 sieves.

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

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

*% Retained must be at least 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

Sample Date:

10/16/23 Concrete Grade: S2M, 3500HP

Dates Test Represents:		10/17/2023	through	10/23/2023			
	Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
	6AA	58-003	Stoneco	1550	9.23	2.69	50.0
	26A	58-003	Stoneco	350	2.09	2.69	11.3

Contractor:

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1550	9.23	2.69	50.0
26A	58-003	Stoneco	350	2.09	2.69	11.3
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7
		Total Wt	3100	18.58		100.0

Verify this number is 100%

SUPERIOR

Superior Materials, LLC 30701 W. 10 Mile Rd. Suite 500

Farmington Hills, MI 48336

	1 Otal 111	0100 10.00		100.0	Verify this number 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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	87.9	100.0	100.0	94.0	6.1	6.1
1/2"	49.5	100.0	100.0	74.8	19.2	25.3
3/8"	22.6	83.2	100.0	59.4	15.3	40.6
#4	3.2	8.5	98.9	40.8	18.6	59.2
#8	1.8	3.1	86.4	34.7	6.1	65.3
#16	1.4	2.6	68.4	27.5	7.2	72.5
#30	1.0	2.2	47.6	19.2	8.3	80.8
#50	0.8	2.2	23.0	9.6	9.6	90.4
#100	0.8	2.1	4.4	2.3	7.2	97.7
LBW	1.1	2.0	0.4	0.9	1.4	99.1

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

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

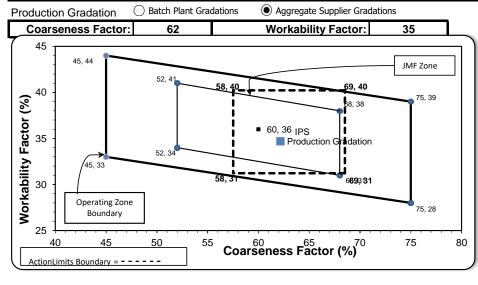
nom. max., #100 and #200 sieves.

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

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

*% Retained must be at least 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	
Workability 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

 PLANT #:
 14
 Contractor:

 Sample Date:
 10/16/23
 Concrete Grade: S2M, 3500HP

Dates Test F	Represents:	10/17/2023	through	10/23/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft ³	Specific	%
			110.9.11 (00.5)		Gravity	Contribution
6AA	58-003	Stoneco	1525	9.09	2.69	49.0
26A	58-003	Stoneco	375	2.23	2.69	12.1
2NS	19-04	Schlegel	1210	7.26	2.67	38.9
		Total Wt	2110	10 50		100.0

MDOT No.:



Builders Redi-Mix 30701 W. 10 Mile Rd.

Suite 500

Farmington Hills, MI 48336

	i otai wt	3110	18.58		100.0	< Verify this n	umber is 100%
Sieve	6AA	26	A	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"	100.0	100	0.0	100.0	100.0	0.0	0.0
3/4"	87.9	100	0.0	100.0	94.1	5.9	5.9
1/2"	49.5	100	0.0	100.0	75.2	18.8	24.8
3/8"	22.6	83	.2	100.0	60.0	15.2	40.0
#4	3.2	8.	5	100.0	41.5	18.5	58.5
#8	1.8	3.	1	91.3	36.8	4.7	63.2 r
#16	1.4	2.	6	71.5	28.8	8.0	71.2
#30	1.0	2.	2	47.5	19.2	9.6	80.8 r
#50	0.8	2.	2	15.5	6.7	12.5	93.3
#100	0.8	2.	1	2.5	1.6	5.1	98.4 a
LBW	1.1	2.	0	0.3	0.9	0.7	99.1

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

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

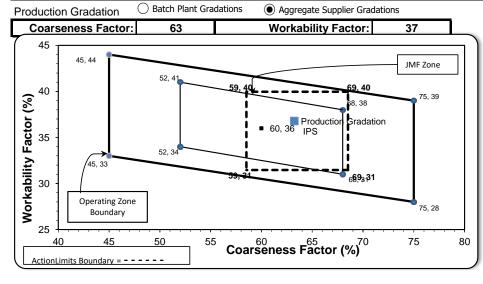
nom. max., #100 and #200 sieves.

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

PLANT #: 12

Sample Date:

10/16/23 Concrete Grade: S2M, 3500HP

Dates Test Represents:		10/17/2023	through	10/23/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1550	9.48	2.62	50.8
26A	71-47	Presque Isle	270	1.65	2.62	8.9
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3

Contractor:

MDOT No.:



etained	Cumulative % Retained	<u>Superior Materials, LLC</u> 30701 W. 10 Mile Rd.
---------	--------------------------	--

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

	5 5 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5						
	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"	98.8	10	0.0	100.0	99.4	0.6	0.6
3/4"	80.8	10	0.0	100.0	90.2	9.1	9.8
1/2"	36.6	96	5.9	100.0	67.5	22.7	32.5
3/8"	17.1	89).7	100.0	57.0	10.5	43.0
#4	3.0	23	3.7	96.3	42.5	14.5	57.5
#8	1.9	5	.8	81.3	34.3	8.2	65.7 r
#16	1.7	2	.6	65.6	27.5	6.7	72.5
#30	1.6	2	.2	49.1	20.8	6.7	79.2 r
#50	1.6	2	.0	24.2	10.7	10.1	89.3
#100	1.5	1	.9	5.5	3.1	7.6	96.9
LBW	1.1	1	.7	0.6	1.0	2.2	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.

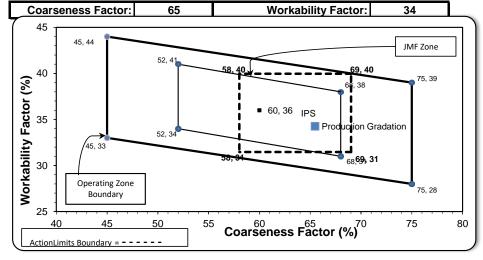
*% Retained must be at least 4% for each sieve except max.,

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.

 Batch Plant Gradations Aggregate Supplier Gradations **Production Gradation**



Intial Production Sample (IPS)

Coar	seness Factor:	64	
Wor	kability 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

PLANT #: 20

6AA

2.4

2.0

Sample Date:

Sieve

#100

LBW

10/16/23 Concrete Grade: **S2M**, **3500HP**

Dates Test F	Represents:	10/17/2023	through	10/23/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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	63-92	Grange Hall	1250	7.56	2.65	41.0
		Total Wt	3050	18.57		100.0

26A

0.8

0.7

Cumulative

97.2

98.6

MDOT No.:

Contractor:

Cumulative

2.8

2NS

3.6

<---- Verify this number is 100%

SUPERIOR MATERIALS	

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

Suite 500 Farmington Hills, MI 48336

0.010				% Passing	701101011100	% 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"	97.9	100.0	100.0	98.9	1.1	1.1
3/4"	80.1	100.0	100.0	89.6	9.3	10.4
1/2"	42.0	90.1	100.0	68.9	20.6	31.1
3/8"	26.8	73.8	100.0	59.9	9.0	40.1
#4	6.4	9.9	97.4	43.9	16.0	56.1
#8	3.1	2.0	84.2	36.3	7.7	63.7
#16	2.7	1.1	69.9	30.1	6.1	69.9
#30	2.6	0.9	51.4	22.5	7.6	77.5
#50	2.5	0.8	22.0	10.4	12.1	89.6

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

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

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

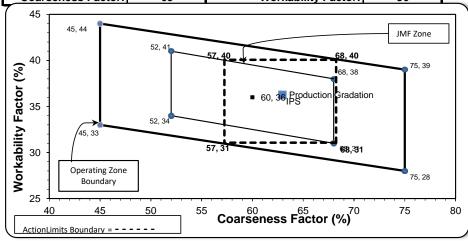
*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.

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

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

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 63 Workability Factor: 36



Intial Production Sample (IPS)

7.6

Coarseness Factor:		63	
Workability 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"	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

PREPARED BY: SM, LLC Technical Service

Total Wt

6AA

100.0

100.0

97.0

71.4

25.8

13.1

2.3

1.6

1.5

1.5

1.4

1.4

PLANT #: p11

Sample Date:

Sieve

2"

1.5"

3/4"

1/2'

3/8'

#4

#8

#16

#30

#50

#100

LBW

10/16/23 Concrete Grade: S2M, 3500HP

18.57

Dates Test Represents:		10/17/2023	through	10/23/2023		
Agg. Class Pit #		Source Weight (SSD)	ft ³	Specific	%	
Agg. Class	110#	Source	Weight (33b)	11	Gravity	Contribution
6AA	71-47	Presque Isle	1400	8.56	2.62	45.9
26A	71-47	Presque Isle	420	2.57	2.62	13.8
2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3

26A

100.0

100.0

100.0

100.0

96.9

89.7

23.7

5.8

2.6

2.2

2.0

1.9

3050

Contractor:

0.0

1.4

13.1

34.5

41.3

56.4

63.8

70.4

78.0

89.1

96.1

MDOT No.:

0.0

1.4

11.8

21.4

6.8

15.1

7.4

6.5

7.6

11.1

7.0

2.6

100.0

Cumulative

% Passing

100.0

100.0

98.6

86.9

65.5

58.7

43.6

36.2

29.6

22.0

10.9

3.9

2NS

100.0

100.0

100.0

100.0

100.0

100.0

97.3

85.9

70.9

52.1

24.7

7.5



----- Verify this number is 100%

% Retained	Cumulative % Retained	Superior Materials, LLC
0.0	0.0	Suite 500

≀d. Farmington Hills, MI 48336

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

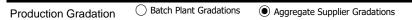
*Any two adjacent sieves must equal 10% except max.,

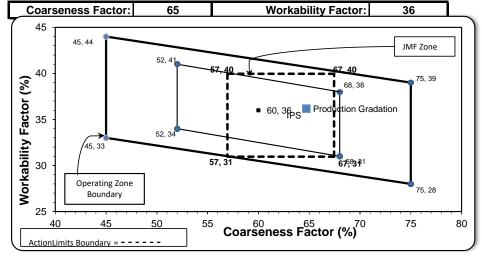
nom. max., #100 and #200 sieves.

*% 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	seness Factor:	62	
Worl	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"	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:

10/16/23 Concrete Grade: S2M, 3500HP

Dates Test F	Represents:	10/17/2023	through	10/23/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1400	8.56	2.62	45.9
26A	71-47	Presque Isle	420	2.57	2.62	13.8
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%

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

Cumulative Cumul 6AA 26A % Retained Sieve 2NS % Passing % Reta 2" 100.0 100.0 100.0 100.0 0.0 0. 1.5" 100.0 100.0 100.0 100.0 0.0 0.0 97.0 100.0 100.0 98.6 1.4 1.4 3/4" 71.4 100.0 100.0 86.9 11.8 13.1 1/2' 25.8 96.9 100.0 65.5 21.4 34.5 3/8' 89.7 100.0 58.7 41.3 13.1 6.8 #4 2.3 23.7 97.3 43.6 15.1 56.4 #8 1.6 5.8 85.9 36.2 7.4 63.8 #16 1.5 2.6 70.9 29.6 6.5 70.4 #30 52.1 22.0 78.0 1.5 2.2 7.6 #50 1.4 2.0 24.7 10.9 11.1 89.1 #100 3.9 1.4 1.9 7.5 7.0 96.1 LBW

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

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

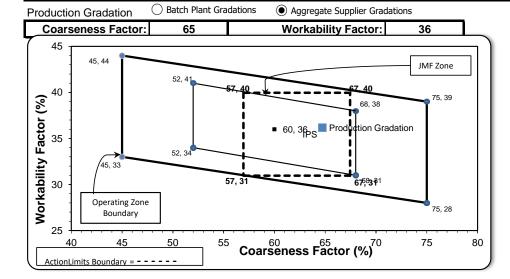
nom. max., #100 and #200 sieves.

*% 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)

2.6

Coars	eness 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"	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

Total Wt

PLANT #: P-35

Sample Date:

Concrete Grade: S2M, 3500HP 10/16/23

18.58

Dates Test F	Represents:	10/17/2023	through	10/23/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1550	9.23	2.69	50.0
26A	58-003	Stoneco	350	2.09	2.69	11.3
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7

3100

Contractor:

MDOT No.:

<---- Verify this number is 100%

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.

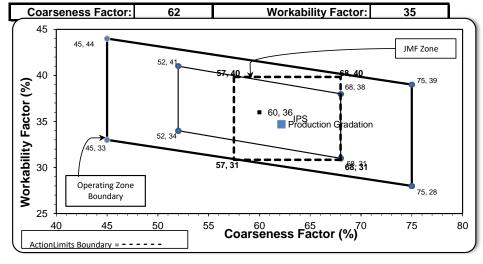
*% Retained must be at least 4% for each sieve except max.,

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.

					,		
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"	87.9	100.0	100.0	94.0	6.1	6.1	
1/2"	49.5	100.0	100.0	74.8	19.2	25.3	
3/8"	22.6	83.2	100.0	59.4	15.3	40.6	
#4	3.2	8.5	98.9	40.8	18.6	59.2	
#8	1.8	3.1	86.4	34.7	6.1	65.3	
#16	1.4	2.6	68.4	27.5	7.2	72.5	
#30	1.0	2.2	47.6	19.2	8.3	80.8	
#50	0.8	2.2	23.0	9.6	9.6	90.4	
#100	0.8	2.1	4.4	2.3	7.2	97.7	
LBW	1.1	2.0	0.4	0.9	1.4	99.1	
roduction Gra	dation O Batch Plant Grad	dations Aggregate Supplier G	radations		Intial Production	on Sample (IPS	



Coars	eness Factor:	63	
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"	99.2	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

Sample Date:

10/16/23 Concrete Grade: S2M, 3500HP

Dates Test Represents:		10/17/2023	through	10/23/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1500	9.17	2.62	49.2
26A	71-47	Presque Isle	350	2.14	2.62	11.5
2NS	63-92	Grange Hall	1200	7.26	2.65	39.3

Contractor:

MDOT No.:



ained	Cumulative % Retained	<u>Superior Materials, LLC</u> 30701 W. 10 Mile Rd.
0	0.0	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	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"	80.8	100	0.0	100.0	90.6	8.9	9.4
1/2"	36.6	96	5.9	100.0	68.5	22.1	31.5
3/8"	17.1	89).7	100.0	58.0	10.4	42.0
#4	3.0	23	3.7	97.4	42.5	15.5	57.5
#8	1.9	5.	.8	84.2	34.7	7.8	65.3
#16	1.7	2.	.6	69.9	28.6	6.1	71.4
#30	1.6	2.	.2	51.4	21.3	7.4	78.7
#50	1.6	2.	.0	22.0	9.7	11.6	90.3
#100	1.5	1.	.9	3.6	2.4	7.3	97.6
LBW	1.1	1.	.7	0.8	1.1	1.3	98.9

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

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

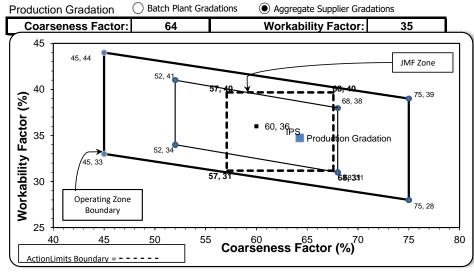
nom. max., #100 and #200 sieves.

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

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

*% Retained must be at least 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"	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:

10/16/23 Concrete Grade: S2M, 3500HP

Dates Test F	Represents:	10/17/2023	tnrougn	10/23/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1550	9.23	2.69	50.0
26A	58-003	Stoneco	350	2.09	2.69	11.3
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7
			0.4.0.0	40 50		4000

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	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"	87.9	100.0	100.0	94.0	6.1	6.1
1/2"	49.5	100.0	100.0	74.8	19.2	25.3
3/8"	22.6	83.2	100.0	59.4	15.3	40.6
#4	3.2	8.5	98.9	40.8	18.6	59.2
#8	1.8	3.1	86.4	34.7	6.1	65.3 r
#16	1.4	2.6	68.4	27.5	7.2	72.5
#30	1.0	2.2	47.6	19.2	8.3	80.8 r
#50	0.8	2.2	23.0	9.6	9.6	90.4
#100	0.8	2.1	4.4	2.3	7.2	97.7 a
LBW	1.1	2.0	0.4	0.9	1.4	99.1

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

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

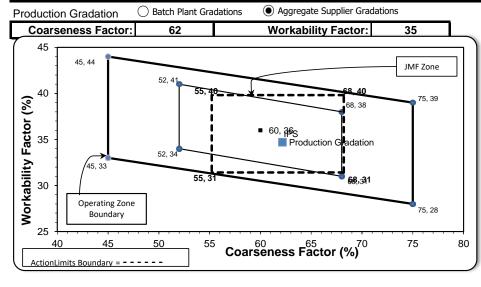
nom. max., #100 and #200 sieves.

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

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

*% Retained must be at least 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:		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

10/17/2023

PLANT #: P-39

Sample Date:

Dates Test Represents:

Concrete Grade: S2M, 3500HP 10/16/23

	through	10/23/2023		
Weight (SSD)		ft ³	Specific	%
	110.9.11 (002)		Gravity	Contribution
	1525	9.33	2.62	50.0

MDOT No.:

Contractor:

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1525	9.33	2.62	50.0
26A	71-47	Presque Isle	275	1.68	2.62	9.0
2NS	44-051	Krake Willis Rd	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	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"	85.0	10	0.0	100.0	92.5	7.5	7.5
1/2"	39.1	96	6.1	100.0	69.2	23.3	30.8
3/8"	23.5	85	5.9	100.0	60.5	8.7	39.5
#4	3.7	20).4	98.8	44.2	16.3	55.8
#8	2.3	5	.2	84.2	36.1	8.1	63.9
#16	2.1	2	.5	66.4	28.5	7.6	71.5
#30	2.0	1	.9	47.9	20.8	7.7	79.2
#50	1.9	1	.7	21.4	9.9	10.9	90.1
#100	1.9	1	.6	5.0	3.1	6.7	96.9
LBW	1.6	1	.4	0.8	1.3	1.9	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.

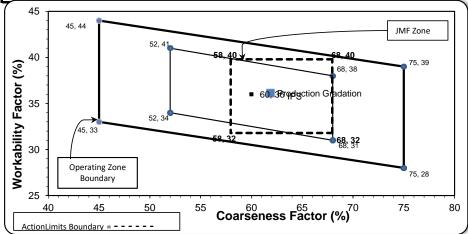
*% Retained must be at least 4% for each sieve except max.,

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.

Production	n Gradation	Batch Plant Gra	dations	 Aggregate Supplier Grad 	dations
Coarse	eness Factor:	62		Workability Factor:	36
45 T					
]	45, 44				JMF Zone



Intial Production Sample (IPS)

Coarseness Factor:		63	
Workability 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

Sample Date:

10/16/23 Concrete Grade: S2M, 3500HP

)23	through	10/23/2023	Cassifia	0/
	144 1 1 4	4.3	Specific	%

Dates Test F	Represents:	10/17/2023	through	10/23/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1550	9.48	2.62	50.8
26A	71-47	Presque Isle	270	1.65	2.62	8.9
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3
		Total Wt	3050	18.57		100.0

Contractor:

MDOT No.:

SUPERIOR

---- Verify this number is 100%

ed	Cumulative % Retained	Superior Materials, 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"	98.8	100.0	100.0	99.4	0.6	0.6
3/4"	80.8	100.0	100.0	90.2	9.1	9.8
1/2"	36.6	96.9	100.0	67.5	22.7	32.5
3/8"	17.1	89.7	100.0	57.0	10.5	43.0
#4	3.0	23.7	96.3	42.5	14.5	57.5
#8	1.9	5.8	81.3	34.3	8.2	65.7
#16	1.7	2.6	65.6	27.5	6.7	72.5
#30	1.6	2.2	49.1	20.8	6.7	79.2
#50	1.6	2.0	24.2	10.7	10.1	89.3
#100	1.5	1.9	5.5	3.1	7.6	96.9
LBW	1.1	1.7	0.6	1.0	2.2	99.0

75, 28

80

75

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

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

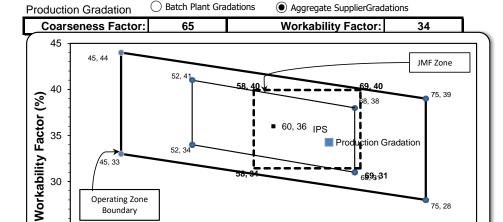
nom. max., #100 and #200 sieves.

*% 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.



Coarseness Factor (%) 70

Intial Production Sample (IPS)

Coarseness Factor:		63	
Workability 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

50

Operating Zone

Boundary

45

ActionLimits Boundary = - - - - -