**Total Wt** 

PLANT #: P-101

Sample Date:

7/31/23 Concrete Grade: S2M, 3500HP

18.57

Dates Test F	Represents:	8/1/2023	through	8/7/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1725	10.55	2.62	56.5
26A	71-47	Presque Isle	100	0.61	2.62	3.3
2NS	75-051	Mid Michigan	1230	7.41	2.66	40.3

3055

Contractor:

MDOT No.:

100.0

----- 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.,

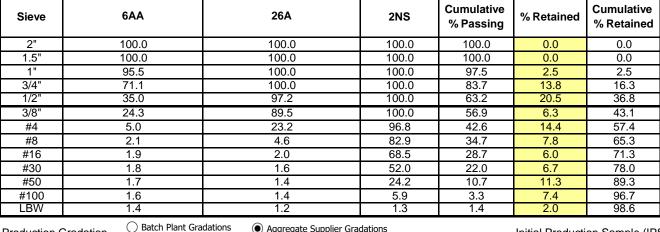
nom. max., #100 and #200 sieves.

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

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

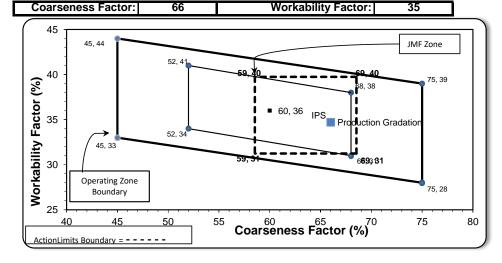
\*% Retained must be at least 8% for the 1" sieve when

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



**Production Gradation** 

Aggregate Supplier Gradations



Initial Production Sample (IPS)

Coar	Coarseness Factor:		
Worl	kability 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

**PLANT #:** P-102

Sample Date:

7/31/23 Concrete Grade: S2M, 3500HP

Dates Test F	represents:	0/1/2023	through	8/1/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific	%
Agg. Class	110#	Source	Weight (33D)	11	Gravity	Contribution
6AA	58-003	Stoneco	1650	9.83	2.69	53.2
26A	58-003	Stoneco	250	1.49	2.69	8.1
2NC	81-010	Pleasant Lake	1200	7 26	2 65	38.7

Contractor:

MDOT No.:



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

	Total Wt	3100	18.58		100.0 < Verify this number i		umber is 100%
Sieve	6AA	26	SA.	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"	83.5	10	0.0	100.0	91.2	8.8	8.8
1/2"	46.1	99.1		100.0	71.2	20.0	28.8
3/8"	23.0	89	0.2	100.0	58.1	13.1	41.9
#4	3.9	10.2		98.1	40.9	17.3	59.1
#8	1.9	3	.7	81.6	32.9	8.0	67.1
#16	1.4	2	.9	63.6	25.6	7.3	74.4
#30	1.2	2.5		44.7	18.1	7.5	81.9
#50	1.2	2.3		22.9	9.7	8.5	90.3
#100	1.1	2.2		6.1	3.1	6.6	96.9
LBW	1.1	2	.1	1.3	1.3	1.9	98.7

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

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

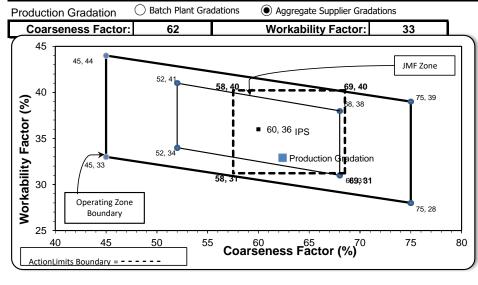
nom. max., #100 and #200 sieves.

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

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

\*% Retained must be at least 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	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

PLANT #: P-103

Sample Date:

#100

1.1

7/31/23 Concrete Grade: **S2M**, **3500HP** 

Dates Test I	Represents:	0/1/2023	through	8/1/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific	%
Agg. Oldoo	"	Ocuroc	Weight (OOD)		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:

Cumulative

96.9

98.7

MDOT No.:

Cumulative

3.1

<---- Verify this number is 100%

SUPERIOR MATERIALS

## Superior Materials, LLC 30701 W. 10 Mile Rd. 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
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"	83.5	100.0	100.0	91.2	8.8	8.8
1/2"	46.1	99.1	100.0	71.2	20.0	28.8
3/8"	23.0	89.2	100.0	58.1	13.1	41.9
#4	3.9	10.2	98.1	40.9	17.3	59.1
#8	1.9	3.7	81.6	32.9	8.0	67.1
#16	1.4	2.9	63.6	25.6	7.3	74.4
#30	1.2	2.5	44.7	18.1	7.5	81.9
#50	1.2	2.3	22.9	9.7	8.5	90.3

6.1

2.2

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

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

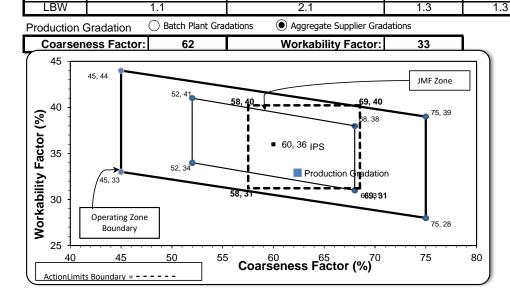
nom. max., #100 and #200 sieves.

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

6.6

1.9

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	8.0	99.4

PREPARED BY: SM, LLC Technical Service Approved BY:

Mart H. Ball

PLANT #: Contractor:

Cumulative

Sample Date: 7/31/23 Concrete Grade: S2M, 3500HP Dates Test Represents: 8/1/2023 8/7/2023 through

Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1630	9.71	2.69	52.4
26A	58-003	Stoneco	270	1.61	2.69	8.7
2NS	19-04	Schlegel	1210	7.26	2.67	38.9
		Total Wt	3110	18.58		100.0

MDOT No.:

Cumulative

---- Verify this number is 100%

Builders Redi-Mix
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 8% for the 1" sieve when

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

Cumulative

% Retained

0.0

0.0

0.8

9.1

28.7

40.8

58.5

64.3

72.1

81.7

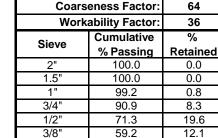
92.7

98.0

99.1

17.7

Sieve	6AA	26A	2NS	% Passing	% Retained	% Retained	
2"	100.0	100.0	100.0	100.0	0.0	0.0	1
1.5"	100.0	100.0	100.0	100.0	0.0	0.0	1
1"	100.0	100.0	100.0	100.0	0.0	0.0	1
3/4"	83.5	100.0	100.0	91.4	8.6	8.6	1
1/2"	46.1	99.1	100.0	71.7	19.7	28.3	1
3/8"	23.0	89.2	100.0	58.7	13.0	41.3	,
#4	3.9	10.2	99.9	41.8	16.9	58.2	,
#8	1.9	3.7	90.1	36.4	5.4	63.6	n
#16	1.4	2.9	69.4	28.0	8.4	72.0	1
#30	1.2	2.5	44.5	18.2	9.8	81.8	no
#50	1.2	2.3	14.3	6.4	11.8	93.6	١,
#100	1.1	2.2	2.7	1.8	4.6	98.2	а
LBW	1.1	2.1	0.2	0.8	1.0	99.2	1
Production Grad	dation O Batch Plant Grad	ations    Aggregate Supplier Grada	tions		Intial Production	on Sample (IPS	3)
Coarseness	Factor: 65	Workability Factor:	36		Coars	eness Factor:	T



#8 35.7 #16 #30 #50

#4

5.8 27.9 7.9 9.5 18.3 7.3 11.0 #100 2.0 5.3 LBW 0.9

41.5

Coarse	eness Factor:	65	Workability Factor:	36	
Workability Factor (%)	45, 44 45, 33 Operating Zone	52, 41	59, 40 69, 40 68, 38 60, 36 PS Production Gradati	JMF Zone 75, 39	
25 1	Boundary	50 55	Coarseness Factor (%)	75, 28 75	80

**PLANT #:** 12

Sample Date:

7/31/23

Contractor:

Concrete Grade: S2M, 3500HP

MDOT No.:

Dates Test F	Represents:	8/1/2023	through	8/7/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1670	10.21	2.62	54.8
26A	71-47	Presque Isle	150	0.92	2.62	4.9
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3
		Total Wt	3050	18.57		100.0

	IVID
%	
tribution	
54.8	
4.9	
40 3	

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

	Total Wt	3050	18.57		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"	99.4	100	0.0	100.0	99.7	0.3	0.3
3/4"	85.4	100	0.0	100.0	92.0	7.7	8.0
1/2"	48.1	95	.5	100.0	71.4	20.6	28.6
3/8"	30.4	88	.5	100.0	61.3	10.0	38.7
#4	6.8	20	.6	96.4	43.6	17.7	56.4
#8	2.9	4.	8	81.3	34.6	9.0	65.4
#16	2.4	2.	6	66.5	28.3	6.4	71.7
#30	2.3	2.	0	50.8	21.8	6.4	78.2
#50	2.2	1.	8	26.3	11.9	9.9	88.1
#100	2.1	1.	8	5.6	3.5	8.4	96.5
LBW	1.6	1.	5	0.9	1.3	2.2	98.7

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

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

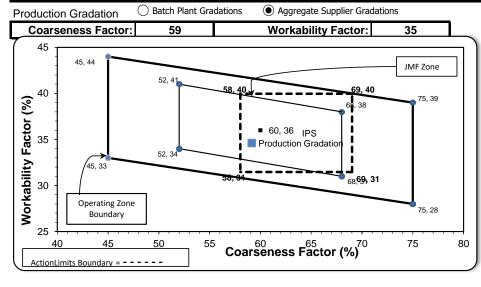
nom. max., #100 and #200 sieves.

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

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

\*% Retained must be at least 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

PLANT #: 20

Sample Date:

7/31/23 Concrete Grade: S2M, 3500HP

Dates Test F	represents:	8/1/2023	tnrougn	8/7/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1550	9.48	2.62	50.8
26A	71-47	Presque Isle	250	1.53	2.62	8.2
2NS	63-92	Grange Hall	1250	7.56	2.65	41.0

Contractor:

MDOT No.:

Total Wt	3050	18.57		100.0	< Verify this n	umber is 100%
6AA	26	6 <b>A</b>	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
100.0	10	0.0	100.0	100.0	0.0	0.0
100.0	10	0.0	100.0	100.0	0.0	0.0
97.6	10	0.0	100.0	98.8	1.2	1.2
78.4	10	0.0	100.0	89.0	9.8	11.0
32.6	97	7.8	100.0	65.6	23.5	34.4
17.6	89	9.0	100.0	57.2	8.3	42.8
4.0	21	.7	94.9	42.7	14.5	57.3
2.4	5.	.8	82.0	35.3	7.4	64.7
2.1	2	.7	68.6	29.4	5.9	70.6
2.0	2.2		51.2	22.2	7.2	77.8
2.0	2.0		22.9	10.6	11.6	89.4
1.9	1.	.9	3.2	2.4	8.1	97.6
1.5	1.	.8	0.3	1.0	1.4	99.0
	100.0 100.0 97.6 78.4 32.6 17.6 4.0 2.4 2.1 2.0 2.0 1.9 1.5	100.0 10 100.0 10 97.6 10 78.4 10 32.6 97 17.6 89 4.0 21 2.4 5 2.1 2 2.0 2 1.9 1	100.0     100.0       100.0     100.0       97.6     100.0       78.4     100.0       32.6     97.8       17.6     89.0       4.0     21.7       2.4     5.8       2.1     2.7       2.0     2.2       2.0     2.0       1.9     1.9       1.5     1.8	100.0       100.0       100.0         100.0       100.0       100.0         97.6       100.0       100.0         78.4       100.0       100.0         32.6       97.8       100.0         17.6       89.0       100.0         4.0       21.7       94.9         2.4       5.8       82.0         2.1       2.7       68.6         2.0       2.2       51.2         2.0       2.9       1.9       3.2         1.5       1.8       0.3	6AA         26A         2NS         % Passing           100.0         100.0         100.0         100.0           100.0         100.0         100.0         100.0           97.6         100.0         100.0         98.8           78.4         100.0         100.0         89.0           32.6         97.8         100.0         65.6           17.6         89.0         100.0         57.2           4.0         21.7         94.9         42.7           2.4         5.8         82.0         35.3           2.1         2.7         68.6         29.4           2.0         2.2         51.2         22.2           2.0         2.0         22.9         10.6           1.9         1.9         3.2         2.4           1.5         1.8         0.3         1.0	6AA         26A         2NS         % Passing         % Retained           100.0         100.0         100.0         100.0         0.0           100.0         100.0         100.0         100.0         0.0           97.6         100.0         100.0         98.8         1.2           78.4         100.0         100.0         89.0         9.8           32.6         97.8         100.0         65.6         23.5           17.6         89.0         100.0         57.2         8.3           4.0         21.7         94.9         42.7         14.5           2.4         5.8         82.0         35.3         7.4           2.1         2.7         68.6         29.4         5.9           2.0         2.2         51.2         22.2         7.2           2.0         2.0         22.9         10.6         11.6           1.9         1.9         3.2         2.4         8.1           1.5         1.8         0.3         1.0         1.4

**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.,

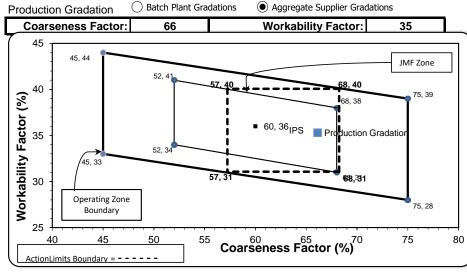
nom. max., #100 and #200 sieves.

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

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

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

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



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"	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

Sample Date:

7/31/23 Concrete Grade: S2M, 3500HP 8/1/2023 8/7/2023

Dates Test I	represents.	0/1/2023	unougn	0/1/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1670	10.21	2.62	54.8
		· '		-		
26A	71-47	Presque Isle	150	0.92	2.62	4.9
2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3

MDOT No.:

Contractor:



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

	Total Wt	3050	18.57		100.0	< Verify this n	umber is 100%
Sieve	6AA	264	1	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"	99.0	100.	.0	100.0	99.5	0.5	0.5
3/4"	89.0	100.	.0	100.0	94.0	5.5	6.0
1/2"	52.1	95.	5	100.0	73.6	20.4	26.4
3/8"	30.3	88.	5	100.0	61.3	12.3	38.7
#4	4.2	20.0	6	96.3	42.1	19.1	57.9
#8	1.3	4.8	1	85.5	35.4	6.7	64.6
#16	1.1	2.6	1	70.5	29.2	6.3	70.8
#30	1.0	2.0	)	50.3	20.9	8.2	79.1
#50	0.9	1.8		23.9	10.2	10.7	89.8
#100	0.8	1.8	1	7.0	3.3	6.9	96.7
LBW	0.7	1.5		0.7	0.7	2.6	99.3
	· ·						

\*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.

O Batch Plant Gradations Aggregate Supplier Gradations **Production Gradation Coarseness Factor:** 60 **Workability Factor:** 35 JMF Zone 75. 39 Workability Factor (%)

Production Gradation

Coarseness Factor (%) $^{70}$ 

80

75, 28

75

Intial Production Sample (IPS)

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

PREPARED BY: SM, LLC Technical Service

Operating Zone

Boundary

45

ActionLimits Boundary = - - - - -

52, 34

50

**PLANT #:** P-32

Sample Date:

7/31/23 Concrete Grade: S2M, 3500HP 8/1/2023 8/7/2023

Dates Test F	Represents:	8/1/2023	through	8/7/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1670	10.21	2.62	54.8
26A	71-47	Presque Isle	150	0.92	2.62	4.9
2NS	95-013	Smelter Bay	1230	7.44	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.	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"	99.0	100	0.0	100.0	99.5	0.5	0.5
3/4"	89.0	100	0.0	100.0	94.0	5.5	6.0
1/2"	52.1	95	.5	100.0	73.6	20.4	26.4
3/8"	30.3	88	.5	100.0	61.3	12.3	38.7
#4	4.2	20	.6	96.3	42.1	19.1	57.9
#8	1.3	4.	8	85.5	35.4	6.7	64.6
#16	1.1	2.	6	70.5	29.2	6.3	70.8
#30	1.0	2.	0	50.3	20.9	8.2	79.1
#50	0.9	1.5	8	23.9	10.2	10.7	89.8
#100	0.8	1.5	8	7.0	3.3	6.9	96.7
LBW	0.7	1.	5	0.7	0.7	2.6	99.3

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

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

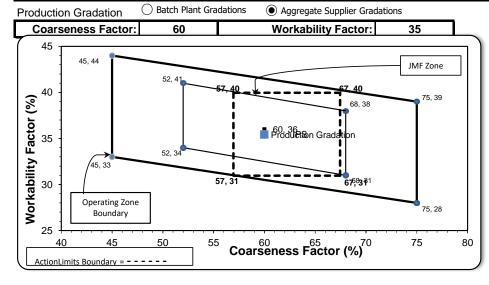
nom. max., #100 and #200 sieves.

\*% 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	
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

PREPARED BY: SM, LLC Technical Service

PLANT #: P-35

#50

#100

Concrete Grade: S2M, 3500HP

Specific

22.9

6.1

Sample Date: 7/31/23
Dates Test Represents: 8/1/2023

8/1/2023 through 8/7/2023

	IVII
%	
tribution	
53.2	
0.4	

9.7

3.1

Contractor:

MDOT No.:

ft<sup>3</sup> Agg. Class Pit# Source Weight (SSD) Gravity Con 6AA 58-003 Stoneco 1650 9.83 2.69 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

<---- Verify this number is 100%

SUPE M A T E R	RIOR

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"	83.5	100.0	100.0	91.2	8.8	8.8
1/2"	46.1	99.1	100.0	71.2	20.0	28.8
3/8"	23.0	89.2	100.0	58.1	13.1	41.9
#4	3.9	10.2	98.1	40.9	17.3	59.1
#8	1.9	3.7	81.6	32.9	8.0	67.1
#16	1.4	2.9	63.6	25.6	7.3	74.4
#30	12	2.5	44 7	18.1	7.5	81.9

2.3

2.2

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

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

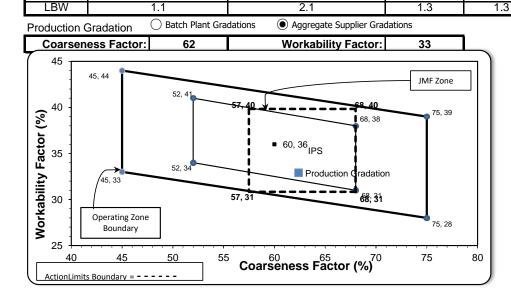
nom. max., #100 and #200 sieves.

 $^{\star}\%$  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)

90.3

96.9

8.5

6.6

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

1.2

1.1

7/31/23

Grange Hall

PLANT #: P-36

Sample Date:

Concrete Grade: S2M, 3500HP

Dates Test Represents: 8/1/2023 8/7/2023 through Specific ft<sup>3</sup> Agg. Class Pit# Source Weight (SSD) Gravity Contribution 6AA 71-47 Presque Isle 1650 10.09 2.62 54.1 26A 71-47 Presque Isle 200 1.22 2.62 6.6 2NS 63-92 1200 7.26 2.65 39.3

MDOT No.:

Contractor:



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"	99.4	10	100.0		99.7	0.3	0.3
3/4"	85.4	10	100.0		92.1	7.6	7.9
1/2"	48.1	95	95.5		71.6	20.5	28.4
3/8"	30.4	88	88.5		61.6	10.0	38.4
#4	6.8	20	20.6		42.4	19.2	57.6
#8	2.9	4	.8	82.0	34.1	8.2	65.9 r
#16	2.4	2	2.6		28.5	5.7	71.5
#30	2.3	2	.0	51.2	21.5	6.9	78.5
#50	2.2	1.8		22.9	10.3	11.2	89.7
#100	2.1	1	.8	3.2	2.5	7.8	97.5
LBW	1.6	1	.5	0.3	1.1	1.4	98.9

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

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

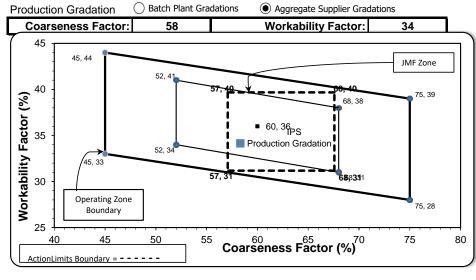
nom. max., #100 and #200 sieves.

\*% 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)

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

7/31/23

PLANT #: P-38

Sample Date:

Concrete Grade: S2M, 3500HP

Dates Test Represents:		0/1/2023	through	8/1/2023		
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
Total Wt			3100	18.58		100.0

Contractor:

MDOT No.:



---- Verify this number is 100%

ined	Cumulative % Retained	Superior Materials, LLC
	0.0	Suite 500
	0.0	Farmington Hills, MI 48336

Cumulative 6AA 26A % Retail 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 0.0 100.0 100.0 100.0 100.0 0.0 0.0 3/4" 83.5 100.0 100.0 91.2 8.8 8.8 1/2' 46.1 99.1 100.0 71.2 20.0 28.8 3/8' 23.0 89.2 100.0 58.1 13.1 41.9 #4 3.9 10.2 98.1 40.9 17.3 59.1 #8 1.9 3.7 81.6 32.9 8.0 67.1 #16 1.4 2.9 63.6 25.6 7.3 74.4 #30 1.2 2.5 44.7 18.1 7.5 81.9 #50 1.2 2.3 22.9 9.7 8.5 90.3 #100 1.1 2.2 6.1 3.1 6.6 96.9 LBW 1.9

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

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

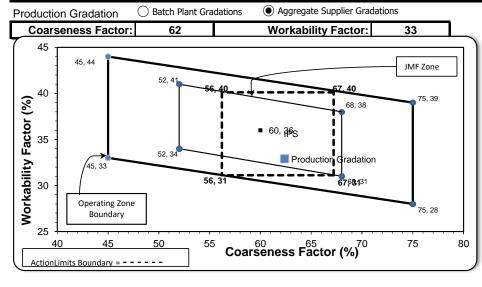
nom. max., #100 and #200 sieves.

 $\ensuremath{^{\star}\%}$  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:	62	
Work	ability Factor:	36	
Sieve	Cumulative	%	Cumulative
	% 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

7/31/23

8/1/2023

PLANT #: P-39

Sample Date:

Dates Test Represents:

Concrete Grade: S2M, 3500HP

8/7/2023		
ft <sup>3</sup>	Specific	%
π	Gravity	Contribution
10.40	2.62	55.7

MDOT No.:

Contractor:

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1700	10.40	2.62	55.7
26A	71-47	Presque Isle	100	0.61	2.62	3.3
2NS	44-051	Krake Willis Rd	1250	7.56	2.65	41.0
		Total Wt	3050	18.57		100.0

through

SUPER	IOR

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

	i otai wt	3050	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"	95.5	10	0.0	100.0	97.5	2.5	2.5
3/4"	71.1	10	0.0	100.0	83.9	13.6	16.1
1/2"	35.0	97	7.2	100.0	63.7	20.2	36.3
3/8"	24.3	89	9.5	100.0	57.5	6.2	42.5
#4	5.0	23	3.2	97.7	43.6	13.9	56.4
#8	2.1	4	.6	83.2	35.4	8.2	64.6
#16	1.9	2	.0	67.2	28.7	6.8	71.3
#30	1.8	1	.6	49.3	21.3	7.4	78.7
#50	1.7	1	.4	22.5	10.2	11.0	89.8
#100	1.6	1	.4	6.3	3.5	6.7	96.5
LBW	1.4	1	.2	1.3	1.4	2.2	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 8% for the 1" sieve when

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

Production Gradation	O Batch Plant Gra	dations
Coarseness Factor:	66	Workability Factor: 35
45 (%) 45, 44 (%) 45, 44	52, 41	JMF Zone  58, 40  68, 38  60, 36 IPS Production Gradation  68, 32 68, 32 68, 31
Operating Zone Boundary  45, 33  Operating Zone Boundary  40  45	50 55	75, 28  Coarseness Factor (%)  70  75  80

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

ActionLimits Boundary = - - - - -

PLANT #: P-02

Sample Date:

7/31/23 Concrete Grade: S2M, 3500HP

Dates Test F	Represents:	8/1/2023	through	8/7/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1670	10.21	2.62	54.8
20.4	74 47	Draggue Iala	450	0.00	2.02	4.0

Contractor:

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1670	10.21	2.62	54.8
26A	71-47	Presque Isle	150	0.92	2.62	4.9
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3
		Total Wt	3050	18.57		100.0

			OR
_			

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

	i otai Wt	3050	18.5 <i>1</i>		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"	99.4	10	0.0	100.0	99.7	0.3	0.3
3/4"	85.4	10	0.0	100.0	92.0	7.7	8.0
1/2"	48.1	95	5.5	100.0	71.4	20.6	28.6
3/8"	30.4	88	3.5	100.0	61.3	10.0	38.7
#4	6.8	20	).6	96.4	43.6	17.7	56.4
#8	2.9	4	.8	81.3	34.6	9.0	65.4
#16	2.4	2	.6	66.5	28.3	6.4	71.7
#30	2.3	2	.0	50.8	21.8	6.4	78.2
#50	2.2	1	.8	26.3	11.9	9.9	88.1
#100	2.1	1	8	5.6	3.5	8.4	96.5
LBW	1.6	1	.5	0.9	1.3	2.2	98.7

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

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

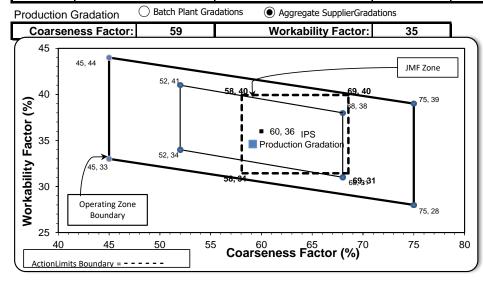
nom. max., #100 and #200 sieves.

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

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

\*% Retained must be at least 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	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