Total Wt

PLANT #: P-101

Sample Date:

7/24/23 Concrete Grade: S2M, 3500HP

18.57

Dates Test Represents:		7/25/2023	through	7/31/2023			
	Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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.:



---- Verify this number is 100%

ed	Cumulative % Retained	Superior Materials, LLC
	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 0.0 96.4 100.0 100.0 98.0 2.0 2.0 3/4" 86.2 100.0 100.0 92.2 5.8 7.8 1/2' 51.5 93.1 100.0 72.4 19.8 27.6 3/8' 32.9 81.7 100.0 61.5 10.9 38.5 #4 5.2 16.5 96.9 42.5 19.0 57.5 #8 2.5 3.4 82.8 34.9 7.6 65.1 #16 2.2 1.7 68.6 28.9 5.9 71.1 #30 2.1 52.3 22.3 6.6 77.7 1.4 #50 2.0 1.2 25.3 11.4 10.9 88.6 #100 1.9 1.2 6.3 3.6 7.7 96.4 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.

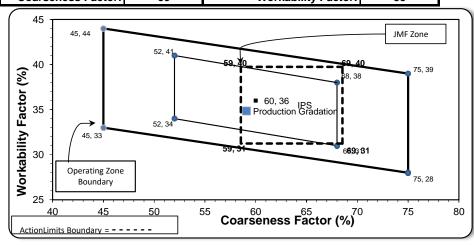
*% Retained must be at least 4% for each sieve except max.,

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

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

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

 Batch Plant Gradations Aggregate Supplier Gradations **Production Gradation** Coarseness Factor: 59 Workability Factor: 35



Initial Production Sample (IPS)

Coarseness Factor:		64	
Work	ability 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

Sample Date:

Concrete Grade: S2M, 3500HP 7/24/23

Dates Test Represents:		1/25/2023	tnrougn	7/31/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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

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 number 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"	99.6	10	0.0	100.0	99.8	0.2	0.2
3/4"	83.5	10	0.0	100.0	91.2	8.6	8.8
1/2"	43.5	99.8		100.0	69.9	21.3	30.1
3/8"	21.3	90).1	100.0	57.3	12.6	42.7
#4	3.4	10).7	98.2	40.7	16.6	59.3
#8	1.7	3	.3	83.9	33.6	7.0	66.4
#16	1.4	2	.6	67.4	27.0	6.6	73.0
#30	1.2	2	.4	49.1	19.8	7.2	80.2
#50	1.1	2	.2	25.3	10.6	9.3	89.4
#100	1.1	2	.2	7.3	3.6	7.0	96.4
LBW	0.9	2	.0	1.5	1.2	2.4	98.8

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

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

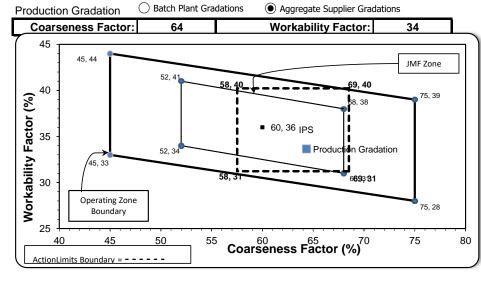
nom. max., #100 and #200 sieves.

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

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

*% Retained must be at least 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

Sample Date:

7/24/23 Concrete Grade: **S2M**, **3500HP**

Dates Test F	Dates Test Represents:		through	7/31/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft ³	Specific	%
99					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

Contractor:

MDOT No.:

number is 100%

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

Farmington Hills, MI 48336

	Total Wt	3100	18.58		100.0	< Verify this number 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"	99.6	100.0		100.0	99.8	0.2	0.2
3/4"	83.5	100.0		100.0	91.2	8.6	8.8
1/2"	43.5	99.8		100.0	69.9	21.3	30.1
3/8"	21.3	90.1		100.0	57.3	12.6	42.7
#4	3.4	10	.7	98.2	40.7	16.6	59.3
#8	1.7	3.	3	83.9	33.6	7.0	66.4
#16	1.4	2.	6	67.4	27.0	6.6	73.0
#30	1.2	2.	4	49.1	19.8	7.2	80.2
#50	1.1	2.2		25.3	10.6	9.3	89.4
#100	1.1	2.	2	7.3	3.6	7.0	96.4
LBW	0.9	2.	0	1.5	1.2	2.4	98.8

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

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

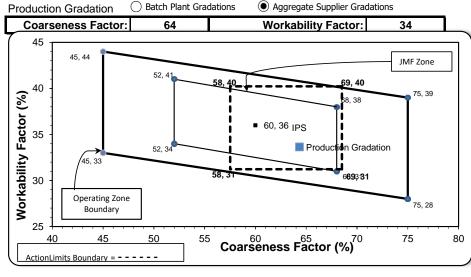
nom. max., #100 and #200 sieves.

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

Sample Date: 7/24/23 Concrete Grade: S2M, 3500HP

Dates Test Represents: 7/25/2023 through 7/31/2023 MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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

---- 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
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		% 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" 99.6 100.0 100.0 99.8	0.2	0.2
3/4" 83.5 100.0 100.0 91.4	8.4	8.6
1/2" 43.5 99.8 100.0 70.4	21.0	29.6
3/8" 21.3 90.1 100.0 57.9	12.5	42.1
#4 3.4 10.7 99.9 41.6 	16.3	58.4
#8 1.7 3.3 90.1 36.2 	5.3	63.8
#16 1.4 2.6 69.4 28.0	8.3	72.0
#30 1.2 2.4 44.5 18.2 18.2	9.8	81.8
#50 1.1 2.2 14.3 6.3	11.8	93.7
#100 1.1 2.2 2.7 1.8	4.5	98.2
LBW 0.9 2.0 0.2 0.7	1.1	99.3

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

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

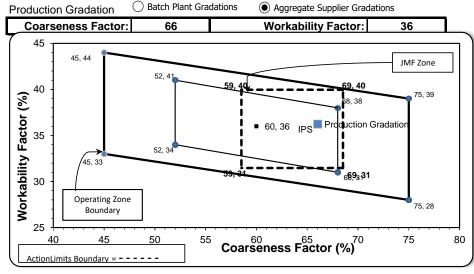
nom. max., #100 and #200 sieves.

 $^{*}\%$ 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	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

PLANT #: 12

Sample Date:

7/24/23

Contractor:

Concrete Grade: S2M, 3500HP

Dates Test F	Represents:	7/25/2023	through	7/31/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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

MDOT No.:

---- Verify this number is 100%

SUPERIOR	3

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	ı
1.5"	100.0	100.0	100.0	100.0	0.0	0.0	ĺ
1"	98.8	100.0	100.0	99.4	0.6	0.6	ĺ
3/4"	75.2	100.0	100.0	86.8	12.5	13.2	ĺ
1/2"	36.0	95.5	100.0	65.7	21.1	34.3	ĺ
3/8"	20.1	88.5	100.0	56.8	8.9	43.2	ĺ
#4	4.0	20.6	96.2	42.3	14.5	57.7	ĺ
#8	2.2	4.8	80.3	33.9	8.4	66.1	n
#16	2.0	2.6	65.1	27.5	6.4	72.5	ĺ
#30	1.9	2.0	49.5	21.1	6.4	78.9	n
#50	1.8	1.8	26.5	11.8	9.3	88.2	ĺ
#100	1.8	1.8	6.3	3.6	8.1	96.4	а

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

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

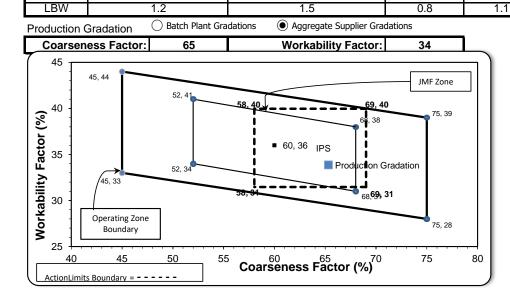
nom. max., #100 and #200 sieves.

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

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

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

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



Intial Production Sample (IPS)

98.9

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

PLANT #: 20

Sample Date:

7/24/23

Contractor:

Concrete Grade: S2M, 3500HP

Dates Test F	Represents:	7/25/2023	through	7/31/2023		
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	250	1.53	2.62	8.2
2NS	63-92	Grange Hall	1250	7.56	2.65	41.0
		Total Wt	3050	18.57		100.0

MDOT No.:

---- 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	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"	97.6	100.0	100.0	98.8	1.2	1.2
3/4"	78.4	100.0	100.0	89.0	9.8	11.0
1/2"	32.6	97.8	100.0	65.6	23.5	34.4
3/8"	17.6	89.0	100.0	57.2	8.3	42.8
#4	4.0	21.7	96.0	43.2	14.1	56.8
#8	2.4	5.8	81.5	35.1	8.1	64.9
#16	2.1	2.7	66.6	28.6	6.5	71.4
#30	2.0	2.2	47.4	20.6	8.0	79.4
#50	2.0	2.0	20.8	9.7	10.9	90.3
#100	1.9	1.9	3.6	2.6	7.1	97.4

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

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

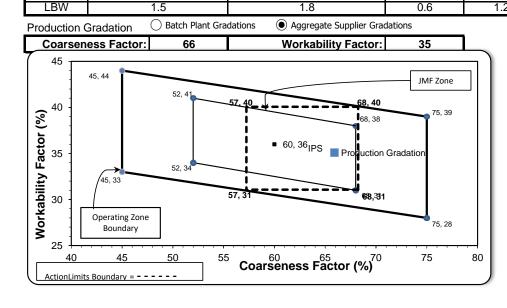
nom. max., #100 and #200 sieves.

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

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

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

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



Intial Production Sample (IPS)

Coars	Coarseness Factor:		
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:

7/24/23 Concrete Grade: S2M, 3500HP

Dates Test F	Represents:	7/25/2023	through	7/31/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
					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
		Total Wt	2050	19 57		100.0

Contractor:

MDOT No.:



Superior	Materials, LLC
30701 W.	10 Mile Rd.
Suite 500	
Farmingto	on 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"	98.6	10	0.0	100.0	99.2	0.8	8.0
3/4"	80.3	10	0.0	100.0	89.2	10.0	10.8
1/2"	41.9	95	5.5	100.0	68.0	21.2	32.0
3/8"	25.1	88	3.5	100.0	58.4	9.5	41.6
#4	5.3	20).6	96.1	42.7	15.8	57.3
#8	2.9	4	.8	85.3	36.2	6.4	63.8
#16	2.5	2	.6	70.5	29.9	6.3	70.1
#30	2.4	2	.0	51.0	22.0	7.9	78.0
#50	2.3	1	.8	24.7	11.3	10.7	88.7
#100	2.2	1	.8	7.6	4.4	7.0	95.6
LBW	1.8	1	.5	1.3	1.6	2.8	98.4

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

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

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

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

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

*% Retained must be at least 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: Workability Factor: 36

<u></u>	chess ractors co	TTOTRUDINTY FUOTOT:
(45 T		
Workability Factor (%)	45, 44 52, 41 52, 34	JMF Zone 57, 40 68, 38 60, 365 Production Gradation 57, 31 67, 31
Morks	Operating Zone Boundary	75, 28
40) 45 50 mits Boundary =	55 Coarseness Factor (%) 70 75 80

Intial Production Sample (IPS)

Coars	eness Factor:	62	
Work	Workability Factor:		
Sieve	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

7/24/23

PLANT #: P-32

Sample Date:

#100

LBW

Concrete Grade: S2M, 3500HP

7.6

75

80

4.4

1.6

Dates Test Represents: 7/25/2023 through 7/31/2023

Agg. Class Pit # Source Weight (SSD) ft³ Specific

Agg Class	Pit#	Course	Weight (SSD)	ft ³	Specific	%
Agg. Class	PIL#	Source	weight (SSD)	π	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
		Total Wt	3050	18.57		100.0

Contractor:

MDOT No.:



---- Verify this number is 100%

ained	Cumulative % Retained	Superior Materials, LLC
0	0.0	Suite 500
0	0.0	Farmington Hills, MI 48336

Cumulative 6AA 26A % Retai 2NS Sieve % Passing 2" 100.0 100.0 100.0 100.0 0.0 1.5" 100.0 100.0 100.0 100.0 0.0 98.6 100.0 100.0 99.2 0.8 8.0 3/4" 80.3 100.0 100.0 89.2 10.0 10.8 1/2' 41.9 95.5 100.0 68.0 21.2 32.0 3/8' 25.1 88.5 100.0 58.4 9.5 41.6 42.7 #4 5.3 20.6 96.1 15.8 57.3 #8 2.9 4.8 85.3 36.2 6.4 63.8 #16 2.5 2.6 70.5 29.9 6.3 70.1 #30 2.4 51.0 22.0 78.0 2.0 7.9 #50 2.3 1.8 24.7 11.3 10.7 88.7

1.8

Coarseness Factor (%) 70

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

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

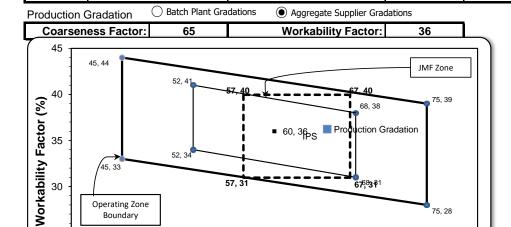
nom. max., #100 and #200 sieves.

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

95.6

7.0

2.8

Coars	Coarseness Factor:				
Work	Workability Factor:		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"	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		

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50

45

ActionLimits Boundary = - - - - -

2.2

7/24/23

PLANT #: P-35

Sample Date:

Dates Test Represents:

Concrete Grade: S2M, 3500HP

Contractor:

7/25/2023 7/31/2023 through

MDOT No.:

Agg. Class	Pit#	Source	Weight (SSD)	ft ³	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

Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills MI 49226

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"	99.6	100.0	100.0	99.8	0.2	0.2
3/4"	83.5	100.0	100.0	91.2	8.6	8.8
1/2"	43.5	99.8	100.0	69.9	21.3	30.1
3/8"	21.3	90.1	100.0	57.3	12.6	42.7
#4	3.4	10.7	98.2	40.7	16.6	59.3
#8	1.7	3.3	83.9	33.6	7.0	66.4 r
#16	1.4	2.6	67.4	27.0	6.6	73.0
#30	1.2	2.4	49.1	19.8	7.2	80.2 r
#50	1.1	2.2	25.3	10.6	9.3	89.4
#100	1.1	2.2	7.3	3.6	7.0	96.4
LBW	0.9	2.0	1.5	1.2	2.4	98.8

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

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

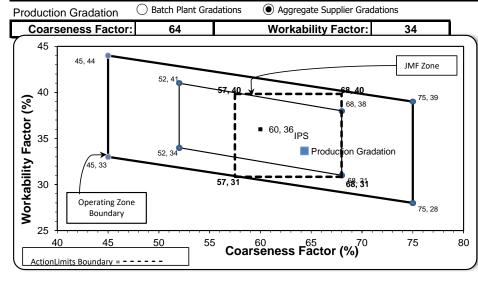
nom. max., #100 and #200 sieves.

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

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

*% Retained must be at least 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

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Agg. Class

6AA

26A 2NS Concrete Grade: S2M, 3500HP

7/24/23 Sample Date: **Dates Test Represents:** 7/2

25/2023	through	7/31/2023	
	· · · · · · · · · · · · · · · · · · ·	·	

prosonts.	1720/2020	unougn	173172023		
Pit#	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
71-47	Presque Isle	1600	9.79	2.62	52.5
71-47	Presque Isle	250	1.53	2.62	8.2
63-92	Grange Hall	1200	7.26	2.65	39.3

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"	98.8	100	0.0	100.0	99.4	0.6	0.6
3/4"	75.2	100	0.0	100.0	87.0	12.4	13.0
1/2"	36.0	95	.5	100.0	66.1	20.9	33.9
3/8"	20.1	88	.5	100.0	57.1	8.9	42.9
#4	4.0	20	.6	96.0	41.6	15.6	58.4
#8	2.2	4.	8	81.5	33.6	7.9	66.4
#16	2.0	2.	6	66.6	27.5	6.1	72.5
#30	1.9	2.	0	47.4	19.8	7.7	80.2
#50	1.8	1.	8	20.8	9.3	10.5	90.7
#100	1.8	1.	8	3.6	2.5	6.8	97.5
LBW	1.2	1.	5	0.6	1.0	1.5	99.0

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

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

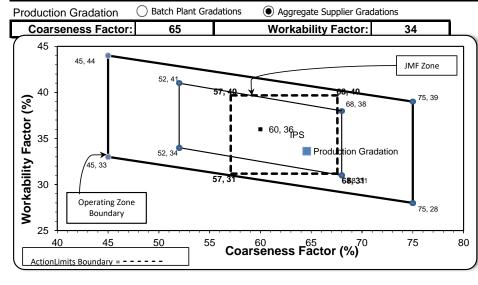
nom. max., #100 and #200 sieves.

*% 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.



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:

7/24/23 Concrete Grade: S2M, 3500HP 7/31/2023

Dates Test F	Represents:	7/25/2023	through	7/31/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft ³	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

Sieve	6AA	26	4	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"	99.6	100	.0	100.0	99.8	0.2	0.2
3/4"	83.5	100	.0	100.0	91.2	8.6	8.8
1/2"	43.5	99.	8	100.0	69.9	21.3	30.1
3/8"	21.3	90.	1	100.0	57.3	12.6	42.7
#4	3.4	10.	7	98.2	40.7	16.6	59.3
#8	1.7	3.3	3	83.9	33.6	7.0	66.4
#16	1.4	2.6	6	67.4	27.0	6.6	73.0
#30	1.2	2.4	1	49.1	19.8	7.2	80.2
#50	1.1	2.2	2	25.3	10.6	9.3	89.4
#100	1.1	2.2)	7.3	3.6	7.0	96.4
LBW	0.9	2.0)	1.5	1.2	2.4	98.8

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

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

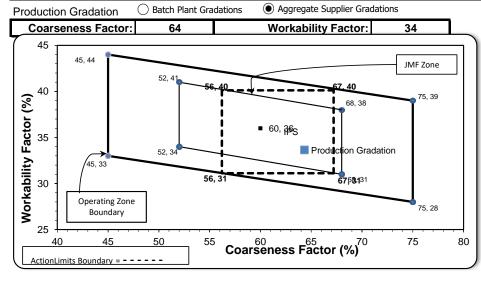
nom. max., #100 and #200 sieves.

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

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

*% Retained must be at least 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:		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

Concrete Grade: S2M, 3500HP

Sample Date: 7/24/23 **Dates Test Represents:** 7/25/2023 7/31/2023 through

MDOT No.:	

Contractor:

Agg. Class	Pit#	Source	Weight (SSD)	ft ³	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

---- Verify this number is 100%

SUPERIOR	3

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

	i Otai Vit	10.01		100.0	< voing and n	umber 13 10070
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"	96.4	100.0	100.0	98.0	2.0	2.0
3/4"	86.2	100.0	100.0	92.3	5.7	7.7
1/2"	51.5	93.1	100.0	72.7	19.6	27.3
3/8"	32.9	81.7	100.0	62.0	10.7	38.0
#4	5.2	16.5	95.9	42.7	19.3	57.3
#8	2.5	3.4	82.4	35.3	7.5	64.7
#16	2.2	1.7	68.2	29.2	6.0	70.8
#30	2.1	1.4	51.0	22.1	7.1	77.9
#50	2.0	1.2	23.0	10.6	11.5	89.4
#100	1.9	1.2	5.6	3.4	7.2	96.6
LBW	1.7	1.0	1.1	1.4	2.0	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.

 Batch Plant Gradations Aggregate Supplier Gradations **Production Gradation Coarseness Factor:** 59 **Workability Factor:** 35 45, 44 JMF Zone 75. 39 Workability Factor (%) 52, 34 Operating Zone 75, 28 Boundary 45 50 Coarseness Factor (%) 70 75 80

Intial Production Sample (IPS)

Coarseness Factor:		63	
Workability Factor:		36	
Sieve	Cumulative	%	Cumulative
	% 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 = - - - - -

6AA

100.0

100.0

98.8

75.2

36.0

20.1

4.0

2.2

2.0

1.9

1.8

1.8

Sample Date:

Sieve

2"

1.5"

3/4"

1/2'

3/8'

#4

#8

#16

#30

#50

#100

LBW

2NS

100.0

100.0

100.0

100.0

100.0

100.0

96.2

80.3

65.1

49.5

26.5

6.3

21.1

11.8

3.6

7/24/23 Concrete Grade: S2M, 3500HP

Dates Test F	Represents:	7/25/2023	through	7/31/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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

95.5

88.5

20.6

4.8

2.6

2.0

1.8

1.8

Contractor:

MDOT No.:

100.0	< Verify this number is 100%		
Cumulative % Passing	% Retained	Cumulative % Retained	
100.0	0.0	0.0	
100.0	0.0	0.0	
99.4	0.6	0.6	
86.8	12.5	13.2	
65.7	21.1	34.3	
56.8	8.9	43.2	*Maxi
42.3	14.5	57.7	*Any t
33.9	8.4	66.1	nom. m
27.5	6.4	72.5	*% Re



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

two adjacent sieves must equal 10% except max.,

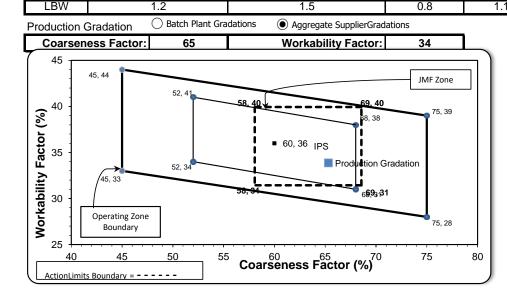
max., #100 and #200 sieves.

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)

6.4

9.3

8.1

2.6

78.9

88.2

96.4

98.9

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