Sample Date:

8/28/23 Concrete Grade: S2M, 3500HP 0/4/2023

Dates Test F	Represents:	8/29/2023	through	9/4/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	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
		Total Wt	3055	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

	i Otai Wt	3033	10.37		100.0	< verily 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"	99.4	100.	0	100.0	99.7	0.3	0.3
3/4"	89.0	100.	0	100.0	94.1	5.5	5.9
1/2"	49.0	95.0)	100.0	72.5	21.6	27.5
3/8"	28.6	84.6	6	100.0	61.0	11.5	39.0
#4	3.9	20.4	1	96.1	42.1	18.9	57.9
#8	2.0	5.1		80.1	33.6	8.5	66.4
#16	1.8	2.5		65.1	27.3	6.3	72.7
#30	1.7	1.9		50.1	21.2	6.1	78.8
#50	1.6	1.7	i.	26.5	11.6	9.6	88.4
#100	1.6	1.6		7.1	3.8	7.8	96.2
I BW	1 4	1.4		11	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.

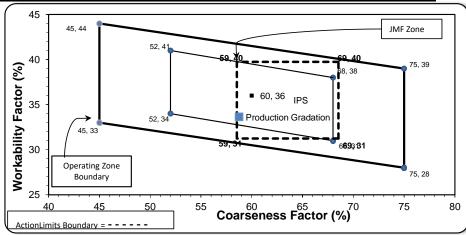
*% Retained must be at least 4% for each sieve except max.,

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.

 Batch Plant Gradations Aggregate Supplier Gradations **Production Gradation** Coarseness Factor: 59 Workability Factor: 34



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:

Sample Date:

8/28/23 Concrete Grade: **S2M**, **3500HP**

Dates Test F	Represents:	0/29/2023	through	9/4/2023		
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	<u>Superior Materials, LLC</u> 30701 W. 10 Mile Rd.		
)	0.0	Suite 500		
)	0.0	Farmington Hills, MI 48336		

Cumulative 6AA 26A % Retai Sieve 2NS % Passing 2" 100.0 100.0 100.0 100.0 0.0 1.5" 100.0 100.0 100.0 100.0 0.0 99.9 100.0 100.0 99.9 0.1 0.1 3/4" 84.3 100.0 100.0 91.6 8.3 8.4 1/2' 45.8 99.4 100.0 71.1 20.5 28.9 3/8' 87.6 100.0 57.2 13.9 42.8 21.5 #4 3.1 9.9 97.4 40.2 17.1 59.8 #8 1.4 2.8 82.3 32.8 7.3 67.2 #16 1.2 2.1 65.1 26.0 6.8 74.0 #30 1.1 1.8 46.3 18.7 7.4 81.3 #50 1.1 1.7 23.3 9.7 8.9 90.3 #100 1.1 1.6 5.9 3.0 6.7 97.0 LBW 1.5 1.0 2.0 99.0

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

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

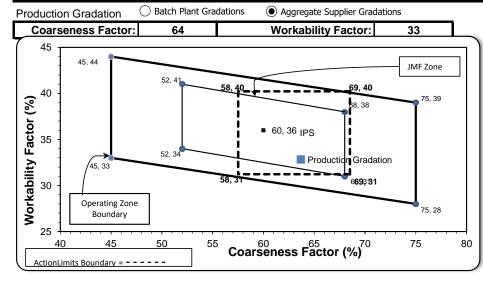
nom. max., #100 and #200 sieves.

 $^{\star}\%$ 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

Approved by:

Sample Date:

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

Dates Test F	Represents:	8/29/2023	through	9/4/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific	%
Agg. Class	110#	Source	Weight (33D)	11	Gravity	Contribution
6AA	58-003	Stoneco	1650	9.83	2.69	53.2
20.4	E0 000	Ctonooo	250	4.40	2.00	0.4

Contractor:

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

--- Verify this number is 100%

SUPERIOR MATERIALS

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

					Tomy and named to 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"	99.9	100.0	100.0	99.9	0.1	0.1
3/4"	84.3	100.0	100.0	91.6	8.3	8.4
1/2"	45.8	99.4	100.0	71.1	20.5	28.9
3/8"	21.5	87.6	100.0	57.2	13.9	42.8
#4	3.1	9.9	97.4	40.2	17.1	59.8
#8	1.4	2.8	82.3	32.8	7.3	67.2
#16	1.2	2.1	65.1	26.0	6.8	74.0
#30	1.1	1.8	46.3	18.7	7.4	81.3
#50	1.1	1.7	23.3	9.7	8.9	90.3
#100	1.1	1.6	5.9	3.0	6.7	97.0
LBW	1.0	1.5	1.0	1.0	2.0	99.0

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

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

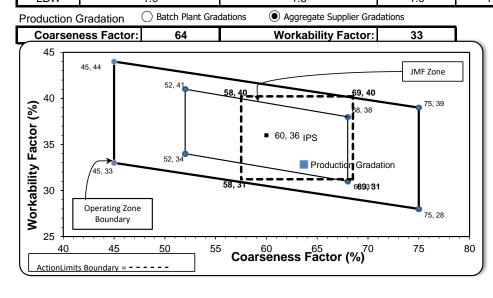
nom. max., #100 and #200 sieves.

*% 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)

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: Sample Date: 8/28/23 Concrete Grade: S2M, 3500HP

Dates Test Represents: 8/29/2023 9/4/2023 through Specific % ft³ Agg. Class Pit# Source Weight (SSD) Gravity Contribution Stoneco 6AA 58-003 1575 9.38 2.69 50.6 26A 58-003 325 1.94 2.69 10.5 Stoneco Schlegel 2NS 19-04 1210 7.26 2.67 38.9

MDOT No.:



Builders Redi-Mix

Farmington Hills, MI 48336

30701 W. 10 Mile Rd. Suite 500

*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.,

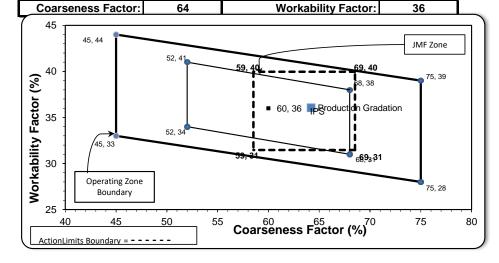
nom. max., #100 and #200 sieves.

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

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

	Total Wt	Total Wt 3110 18.58 26A		18.58		< Verify this number is 100%	
Sieve	6AA			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"	99.9	10	0.0	100.0	99.9	0.1	0.1
3/4"	84.3	10	0.0	100.0	92.0	7.9	8.0
1/2"	45.8	99).4	100.0	72.5	19.6	27.5
3/8"	21.5	87	' .6	100.0	58.9	13.5	41.1
#4	3.1	9	.9	99.9	41.5	17.5	58.5
#8	1.4	2	.8	90.1	36.1	5.4	63.9
#16	1.2	2	.1	69.4	27.8	8.2	72.2
#30	1.1	1	.8	44.5	18.1	9.8	81.9
#50	1.1	1	.7	14.3	6.3	11.8	93.7
#100	1.1	1	.6	2.7	1.8	4.5	98.2
LBW	1.0	1	.5	0.2	0.7	1.0	99.3

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



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	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 #: 12

Sample Date:

8/28/23

Concrete Grade: S2M, 3500HP

Contractor:

MDOT No.:

Dates Test F	Represents:	8/29/2023	through	9/4/2023		
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	19.57		100.0

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

nber is 100%	SUPERIOR

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

	l otal 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	100.0	100.0	0.0	0.0
1.5"	100.0	100	.0	100.0	100.0	0.0	0.0
1"	97.0	100	.0	100.0	98.4	1.6	1.6
3/4"	78.1	100	.0	100.0	88.4	10.0	11.6
1/2"	37.7	96.	5	100.0	66.7	21.7	33.3
3/8"	22.3	87	2	100.0	57.9	8.8	42.1
#4	4.5	25.	7	96.7	43.1	14.8	56.9
#8	2.7	6.3	3	83.0	35.3	7.8	64.7
#16	2.1	2.8	3	67.8	28.6	6.7	71.4
#30	2.0	2.1		50.4	21.5	7.1	78.5
#50	1.9	1.9)	25.8	11.5	10.0	88.5
#100	1.8	1.8	3	5.1	3.1	8.4	96.9
LBW	1.5	1.6	6	0.7	1.2	1.9	98.8

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

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

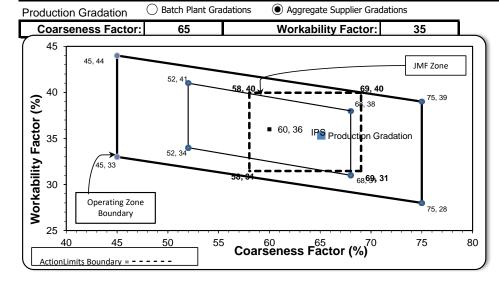
nom. max., #100 and #200 sieves.

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

PREPARED BY: SM, LLC Technical Service Approved By:

PLANT #: 20

Sample Date:

8/28/23 Concrete Grade: **S2M, 3500HP**

Dates Test Represents:		8/29/2023	through	9/4/2023		
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	63-92	Grange Hall	1250	7.56	2.65	41.0
		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

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	99.3	0.7	0.7
3/4"	84.6	100.0	100.0	91.4	7.9	8.6
1/2"	51.5	97.0	100.0	72.9	18.5	27.1
3/8"	32.0	84.6	100.0	61.6	11.3	38.4
#4	6.8	15.1	97.4	44.2	17.4	55.8
#8	3.1	3.8	83.3	36.0	8.2	64.0
#16	2.6	2.1	68.5	29.6	6.4	70.4
#30	2.4	1.8	49.2	21.6	8.0	78.4
#50	2.2	1.7	20.1	9.5	12.0	90.5
#100	22	1.6	3.3	2.6	6.9	97 4

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

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

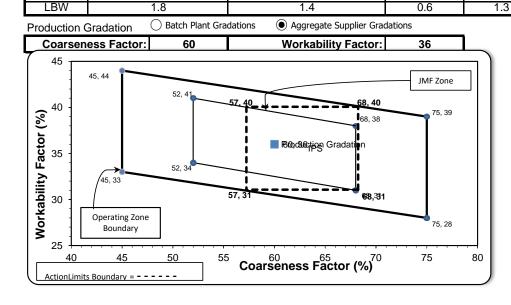
nom. max., #100 and #200 sieves.

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

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

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

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



Intial Production Sample (IPS)

98.7

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"	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 Approved By

PLANT #: p11

Sample Date:

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

Dates Test Represents:		8/29/2023	through	9/4/2023					
	Agg. Class	Pit#	Source	ce Weight (SSD) ft ³		Weight (SSD) ft ³		Specific	%
	Agg. Oldss	110#	Oource	Weight (33b)	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		

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/	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"	97.6	100	.0	100.0	98.8	1.2	1.2
3/4"	81.8	100	.0	100.0	91.0	7.8	9.0
1/2"	42.2	96.	5	100.0	71.2	19.8	28.8
3/8"	24.5	87.	2	100.0	61.5	9.7	38.5
#4	4.3	25.	7	96.4	43.7	17.8	56.3
#8	2.0	6.3	3	85.0	35.9	7.8	64.1
#16	1.8	2.8	3	70.0	29.4	6.5	70.6
#30	1.7	2.1		50.3	21.3	8.1	78.7
#50	1.6	1.9)	24.1	10.7	10.6	89.3
#100	1.5	1.8	3	7.1	3.8	6.9	96.2
LBW	1.3	1.6	6	1.5	1.4	2.4	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.

Production Gradation	Batch Plant Gra	adations Aggregate Supplier Gradations
Coarseness Factor:	60	Workability Factor: 36
45 45, 44 45, 44 45, 33 Operating Zone Boundary	52, 34	JMF Zone 57, 40 68, 38 75, 39 67, 31 75, 28
40 45	50 55	5 Coarseness Factor (%) 70 75 80

Intial Production Sample (IPS)

Coars	Coarseness Factor:		
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

ActionLimits Boundary = - - - - -

Agg. Class 6AA 26A 2NS

Concrete Grade: S2M, 3500HP

Sample Date: 8/28/23 8/29/2023 Dates Test Repr 0/4/2023

presents.	0/29/2023	trirougn	9/4/2023		
Pit#	Source	Weight (SSD)	ft ³	Specific	%
FIL#	Source	weight (SSD)	It	Gravity	Contribution
71-47	Presque Isle	1500	9.17	2.62	49.2
71-47	Presque Isle	320	1.96	2.62	10.5
95-013	Smelter Bay	1230	7 44	2.65	40.3

MDOT No.:

Contractor:

ined	Cumulative % Retained	Superior iviaterials, LLC
)	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	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"	97.6	10	0.0	100.0	98.8	1.2	1.2
3/4"	81.8	10	0.0	100.0	91.0	7.8	9.0
1/2"	42.2	96	6.5	100.0	71.2	19.8	28.8
3/8"	24.5	87	' .2	100.0	61.5	9.7	38.5
#4	4.3	25	5.7	96.4	43.7	17.8	56.3
#8	2.0	6	.3	85.0	35.9	7.8	64.1
#16	1.8	2	.8	70.0	29.4	6.5	70.6
#30	1.7	2	.1	50.3	21.3	8.1	78.7
#50	1.6	1	.9	24.1	10.7	10.6	89.3
#100	1.5	1	.8	7.1	3.8	6.9	96.2
LBW	1.3	1	.6	1.5	1.4	2.4	98.6

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

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

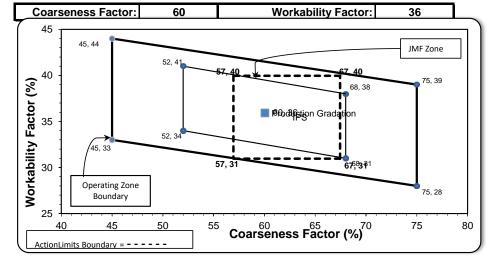
nom. max., #100 and #200 sieves.

*% 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.

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



Intial Production Sample (IPS)

Coars	Coarseness Factor:		
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

Sample Date:

8/28/23 Concrete Grade: **S2M**, **3500HP**

Dates Test F	Represents:	0/29/2023	through	9/4/2023		
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%

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

	Total Wt	3100 10.30	1	100.0	C Verily tills in	umber is 10076
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"	99.9	100.0	100.0	99.9	0.1	0.1
3/4"	84.3	100.0	100.0	91.6	8.3	8.4
1/2"	45.8	99.4	100.0	71.1	20.5	28.9
3/8"	21.5	87.6	100.0	57.2	13.9	42.8
#4	3.1	9.9	97.4	40.2	17.1	59.8
#8	1.4	2.8	82.3	32.8	7.3	67.2
#16	1.2	2.1	65.1	26.0	6.8	74.0
#30	1.1	1.8	46.3	18.7	7.4	81.3
#50	1.1	1.7	23.3	9.7	8.9	90.3
#100	1.1	1.6	5.9	3.0	6.7	97.0
LBW	1.0	1.5	1.0	1.0	2.0	99.0

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

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

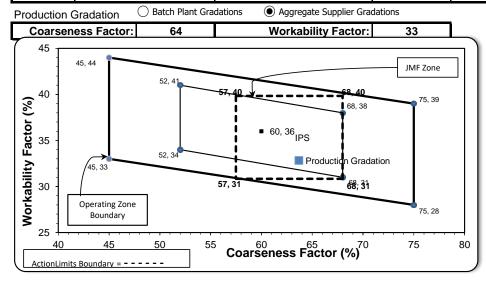
nom. max., #100 and #200 sieves.

 $^{*}\%$ 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)

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	0.8
3/4"	90.9	8.3	9.1
1/2"	71.3	19.6	28.7
3/8"	59.4	11.9	40.6
#4	43.0	16.5	57.0
#8	35.3	7.6	64.7
#16	28.2	7.1	71.8
#30	21.6	6.6	78.4
#50	9.1	12.5	90.9
#100	1.7	7.4	98.3
LBW	1.1	0.6	98.9

PREPARED BY: SM, LLC Technical Service Approved By

8/28/23

8/29/2023

6AA

100.0

100.0

97.0

78.1

37.7

22.3

4.5

2.7

2.1

2.0

1.9

1.8

PLANT #: P-36

Sample Date:

Sieve

2"

1.5"

3/4"

1/2'

3/8'

#4

#8

#16

#30

#50

#100

Dates Test Represents:

2NS

100.0

100.0

100.0

100.0

100.0

100.0

97.4

83.3

68.5

49.2

20.1

3.3

Concrete Grade: S2M, 3500HP

Cumulative

% Passing

100.0

100.0

98.4

88.5

67.0

58.2

42.8

34.7

28.3

20.6

9.1

2.4

Batoo root rtoproconto.		0,20,2020	unougn	0/ 1/2020		
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	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

26A

100.0

100.0

100.0

100.0

96.5

87.2

25.7

6.3

2.8

2.1

1.9

1.8

through

9/4/2023

MDOT No.:

Cumulative

% Retained

0.0

0.0

1.6

11.5

33.0

41.8

57.2

65.3

71.7

79.4

90.9

97.6

---- Verify this number is 100%

Contractor:

% Retained

0.0

0.0

1.6

9.9

21.5

8.8

15.4

8.1

6.4

7.7

11.5

6.7

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.,

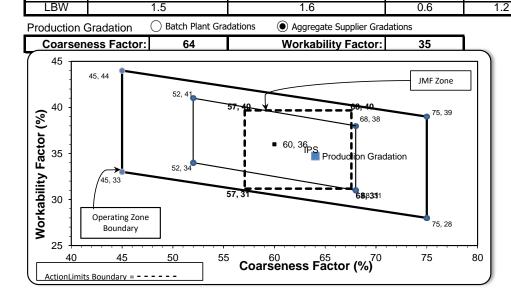
nom. max., #100 and #200 sieves.

*% 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	
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:

8/28/23 Concrete Grade: **S2M**, **3500HP**

Dates Test F	Represents:	8/29/2023	tnrougn	9/4/2023		
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%

ive	Superior iviaterials, LLC
ed	30701 W. 10 Mile Rd.
	Suite 500
	Farmington Hills, MI 48336

Cumulative Cumulati 26A 6AA % Retained Sieve 2NS % Passing % Retain 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 99.9 100.0 100.0 99.9 0.1 0.1 3/4" 84.3 100.0 100.0 91.6 8.3 8.4 1/2' 45.8 99.4 100.0 71.1 20.5 28.9 3/8' 87.6 100.0 57.2 13.9 42.8 21.5 #4 3.1 9.9 97.4 40.2 17.1 59.8 #8 1.4 2.8 82.3 32.8 7.3 67.2 #16 1.2 2.1 65.1 26.0 6.8 74.0 #30 1.1 1.8 46.3 18.7 7.4 81.3 #50 1.1 1.7 23.3 9.7 8.9 90.3 #100 1.1 1.6 5.9 3.0 6.7 97.0

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

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

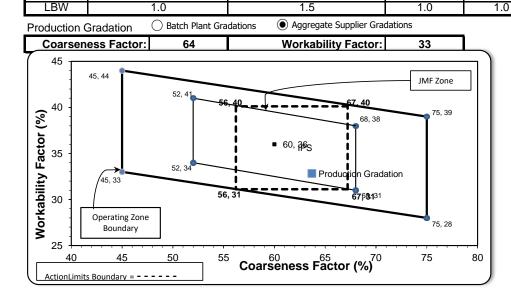
nom. max., #100 and #200 sieves.

*% 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)

99.0

2.0

Coars	eness Factor:	62	
Work	ability Factor:	36	
Siovo	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.2	0.8	0.8
3/4"	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:

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

Dates Test Represents:		8/29/2023	through	9/4/2023			
	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	44-051	Krake Willis Rd	1250	7.56	2.65	41.0

Contractor:

MDOT No.:



----- Verify this number is 100%

ı	Cumulative % 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 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 99.4 100.0 100.0 99.7 0.3 0.3 3/4" 89.0 100.0 100.0 94.2 5.5 5.8 1/2' 49.0 95.0 100.0 72.9 21.3 27.1 3/8' 84.6 100.0 61.5 11.4 38.5 28.6 #4 3.9 20.4 99.0 44.0 17.6 56.0 #8 2.0 5.1 85.0 36.2 7.7 63.8 #16 1.8 2.5 67.9 28.9 7.3 71.1 #30 50.6 21.8 78.2 1.7 1.9 7.2 #50 1.6 1.7 23.1 10.4 11.3 89.6 #100 1.6 1.6 5.8 3.3 7.1 96.7 LBW 98.8

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

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

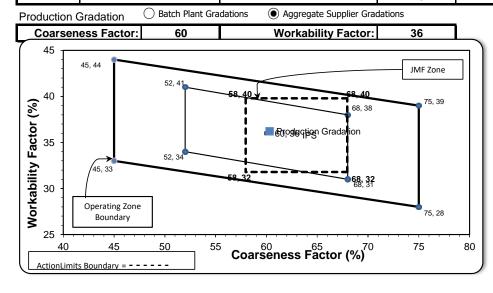
nom. max., #100 and #200 sieves.

*% 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:		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

Sample Date: 8/28/23 Concrete Grade: S2M, 3500HP Dates Test Represents: 8/29/2023 0/4/2023 through

Dales Test I	represents.	0/23/2023	unougn	3/4/2023		
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
		T-4-1 \A/4	2	40.57		4000

Contractor:

MDOT No.:

	Total Wt	3050	18.57		100.0	< Verify this n	umber is 100%
Sieve	6AA	26	6 A	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"	97.0	10	0.0	100.0	98.4	1.6	1.6
3/4"	78.1	10	0.0	100.0	88.4	10.0	11.6
1/2"	37.7	96	6.5	100.0	66.7	21.7	33.3
3/8"	22.3	87	7.2	100.0	57.9	8.8	42.1
#4	4.5	25	5.7	96.7	43.1	14.8	56.9
#8	2.7	6	.3	83.0	35.3	7.8	64.7
#16	2.1	2	.8	67.8	28.6	6.7	71.4
#30	2.0	2	.1	50.4	21.5	7.1	78.5
#50	1.9	1	.9	25.8	11.5	10.0	88.5
#100	1.8	1	.8	5.1	3.1	8.4	96.9
LBW	1.5	1	.6	0.7	1.2	1.9	98.8



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.,

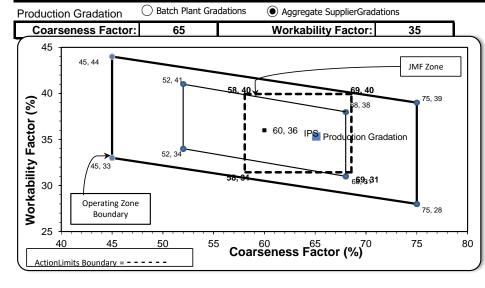
nom. max., #100 and #200 sieves.

*% 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)

Coars	eness Factor:	63	
Workability Factor:		36	
Siovo	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	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

Approved By: PREPARED BY: SM, LLC Technical Service