

Aggregate Optimization Chart

PLANT #: P-02

Sample Date: 9/23/24

Dates Test Represents: 9/24/2024 through 9/30/2024

Concrete Grade: **S2M, 3500HP**

Contractor: _____

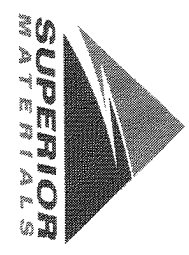
MDOT No.: _____

Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1470	8.99	2.62	48.2
26A	71-47	Presque Isle	350	2.14	2.62	11.5
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3
Total Wt			3050	18.57		100.0

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"	97.3	100.0	100.0	98.7	1.3	1.3
3/4"	78.5	100.0	100.0	89.6	9.1	10.4
1/2"	35.6	92.5	100.0	68.1	21.5	31.9
3/8"	14.6	80.9	100.0	56.6	11.5	43.4
#4	1.8	18.7	95.4	41.5	15.2	58.5
#8	1.4	5.0	82.8	34.6	6.8	65.4
#16	1.3	2.7	70.0	29.2	5.5	70.8
#30	1.3	2.1	55.0	23.0	6.1	77.0
#50	1.2	1.9	27.1	11.7	11.3	88.3
#100	1.2	1.8	7.2	3.7	8.0	96.3
LBW	0.9	1.6	1.1	1.1	2.6	98.9

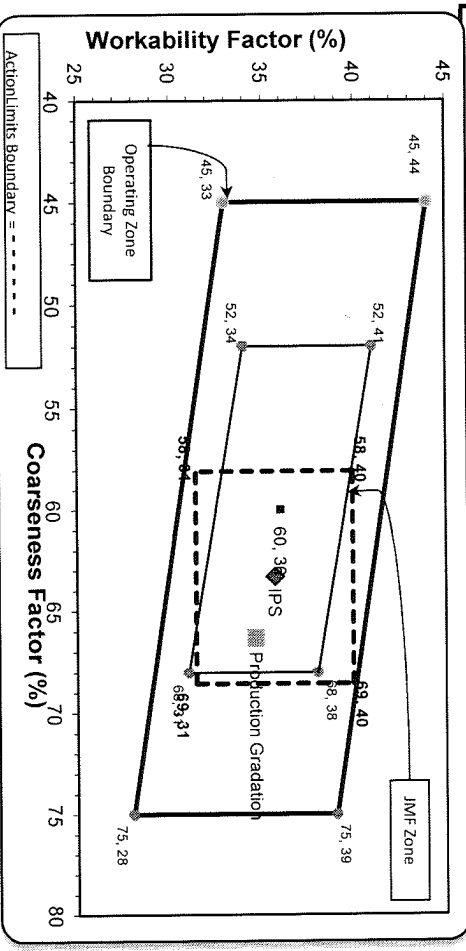
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 **% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 ***% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

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



Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

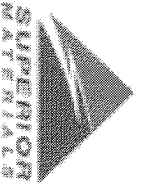
Coarseness Factor: **66** Workability Factor: **35**



Sieve	Coarseness Factor:	Workability Factor:	Cumulative % Passing	% Retained	Cumulative % Retained
2"	63	36	100.0	0.0	0.0
1.5"			100.0	0.0	0.0
1"			100.0	0.0	0.0
3/4"			95.6	4.4	4.4
1/2"			73.1	22.6	26.9
3/8"			59.3	13.8	40.7
#4			42.8	16.5	57.2
#8			35.7	7.1	64.3
#16			28.9	6.8	71.1
#30			20.7	8.2	79.3
#50			9.9	10.8	90.1
#100			2.1	7.8	97.9
LBW			0.9	1.2	99.1

PREPARED BY:
 SM, LLC Technical Service

Approved By: _____



Daily Summary Report

Date Wednesday, September 25, 2024

Sample Id	Plant	Product	Specification	Sample Type	Time
-674914850	S02 Superior Hoover	1051 6AA LS	6AA LS	QA	17:16
-1989627367	S02 Superior Hoover	1067 26A Mod LS	26A LS Spec	QA	17:18
-674926172	S02 Superior Hoover	1022 2NS GR	2NS GR Spec	QA	17:19
2" (50mm)					100.0
1 1/2" (37.5mm)					100.0
1" (25mm)					97.3
3/4" (19mm)					78.5
1/2" (12.5mm)					35.6
3/8" (9.5mm)					14.6
#4 (4.75mm)					1.8
#8 (2.36mm)					1.4
#16 (1.18mm)					1.3
#30 (.6mm)					1.3
#50 (.3mm)					1.2
#100 (.15mm)					1.2
#200 (75um)					1.05
Pan					0.00
FM					
#200 (75um)					1.05
Wash Loss (#200/75um)					0.9
Total Moisture					3.32
					100.0
					100.0
					100.0
					100.0
					92.5
					80.9
					18.7
					5.0
					2.7
					2.1
					1.9
					1.8
					1.7
					0.0
					2.62
					1.44
					1.1
					4.78

Aggregate Optimization Chart

Production Gradation Report

PLANT #: p11

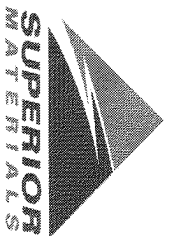
Sample Date: 9/23/24

Dates Test Represents: 9/24/2024 through 9/30/2024

Concrete Grade: S2M, 3500HP

Contractor: _____

MDOT No.: _____



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

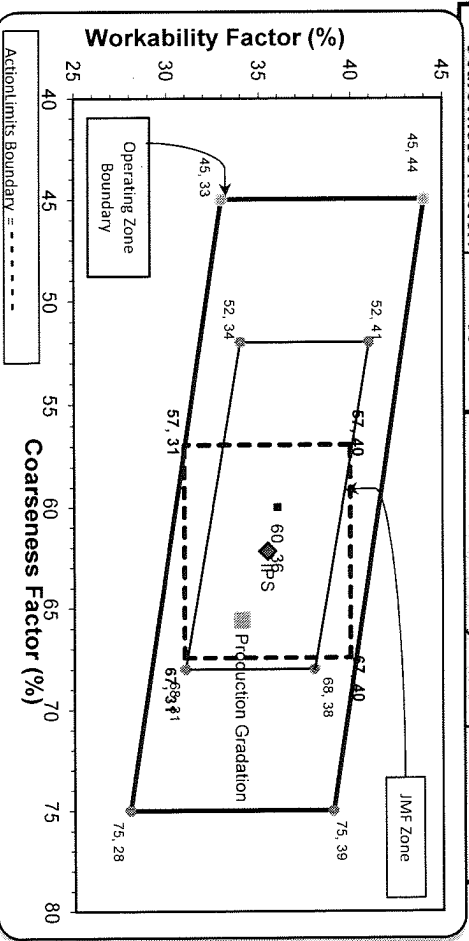
Aggr. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %
GAA	71-47	Presque Isle	1420	8.69	2.62	46.6
26A	71-47	Presque Isle	400	2.45	2.62	13.1
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3
		Total Wt	3050	18.57		100.0

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"	94.3	100.0	100.0	97.3	2.7	2.7
3/4"	72.5	100.0	100.0	87.2	10.1	12.8
1/2"	30.2	95.7	100.0	66.9	20.3	33.1
3/8"	13.4	77.7	100.0	56.8	10.2	43.2
#4	3.2	13.7	95.3	41.7	15.0	58.3
#8	2.2	3.7	80.7	34.1	7.7	65.9
#16	2.0	2.4	66.1	27.9	6.2	72.1
#30	1.9	2.1	49.8	21.2	6.7	78.8
#50	1.7	2.0	23.4	10.5	10.8	89.5
#100	1.6	1.9	5.9	3.4	7.1	96.6
LBW	1.4	1.7	0.8	1.2	2.2	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.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **66** Workability Factor: **34**



Initial Production Sample (IPS)

Sieve	Cumulative % Passing	% Retained	Cumulative % 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

Coarseness Factor: **62** Workability Factor: **35**

PREPARED BY:
SM, LLC Technical Service

Approved By: _____



EDW. C. LEVY CO.
 8800 Dix Avenue, Detroit, MI 48209
 (313) 645-7200

Superior Onsite
 Jefferson

Daily Summary Report

Date Thursday, September 26, 2024

Sample Id	Plant	Product	Specification	Sample Type	Time	100.0	100.0	100.0	100.0	100.0
-674942864	S000 Superior Onsite	7919 COARSE AGG P1M LS	Coarse Agg P1M LS Target	QA	17:26	100.0	100.0	100.0	100.0	100.0
-674969728	S000 Superior Onsite	1051 6AA LS	Intermed Agg P1M LS Target	QA	17:29	100.0	100.0	100.0	100.0	100.0
-674918687	S000 Superior Onsite	7920 INTERMED AGG P1M LS	Intermed Agg P1M LS Target	QA	17:32	100.0	100.0	100.0	100.0	100.0
-674988921	S000 Superior Onsite	1067 26A Mod LS	26A Mod LS Spec	QA	17:33	100.0	100.0	100.0	100.0	100.0
-674966699	S000 Superior Onsite	1022 2NS GR	2NS GR Spec	QA	17:34	100.0	95.3	80.7	66.1	49.8
						23.4	5.9	1.2	0.0	2.79
						1.2	1.2	0.0	0.0	0.0
						1.7	1.9	1.7	0.0	0.0
						3.0	2.0	2.4	2.2	0.0
						1.7	2.5	2.7	2.2	0.0
						1.4	1.7	2.4	2.2	0.0
						1.4	1.9	2.9	2.2	0.0
						1.7	2.0	3.6	2.9	0.0
						1.8	2.0	7.3	2.9	0.0
						1.6	2.0	13.4	2.9	0.0
						1.51	2.0	43.7	2.9	0.0
						0.00	1.9	70.6	2.9	0.0
							1.7	99.7	2.9	0.0
							1.6	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							1.4	100.0	2.9	0.0
							1.4	100.0	2.9	0.0
							2.5	100.0	2.9	0.0
							3.4	100.0	2.9	0.0
							3.4	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0
							3.0	100.0	2.9	0.0
							1.7	100.0	2.9	0.0

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-103

Sample Date: 9/23/24

Dates Test Represents: 9/24/2024 through 9/30/2024

Concrete Grade: S2M, 3500HP

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %
6AA	58-003	Stoneco	1500	8.94	2.69	48.4
26A	58-003	Stoneco	400	2.38	2.69	12.9
2NS	63-114	Highland	1200	7.26	2.65	38.7
Total Wt:						100.0
Total Wt:						18.58

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"	86.0	100.0	100.0	93.2	6.8	6.8
1/2"	49.5	99.8	100.0	75.5	24.5	24.5
3/8"	24.3	90.5	100.0	62.1	37.9	37.9
#4	4.8	7.6	99.1	41.7	58.3	58.3
#8	1.9	3.4	82.9	33.4	66.6	66.6
#16	1.6	2.8	64.5	26.1	73.9	73.9
#30	1.5	2.6	45.1	18.5	81.5	81.5
#50	1.4	2.3	21.9	9.5	90.5	90.5
#100	1.4	2.2	4.5	2.7	97.3	97.3
LBW	1.2	2.1	0.2	0.9	99.1	99.1

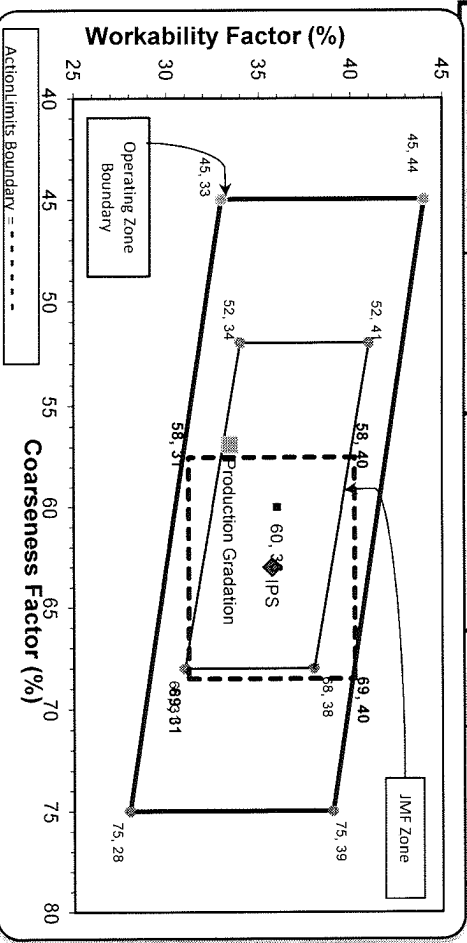


Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

*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.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

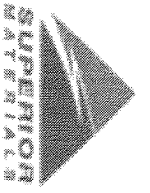
Initial Production Sample (IPS)



Sieve	Coarseness Factor:	Workability Factor:	% Retained	Cumulative % Retained
2"	57	33	0.0	0.0
1.5"	57	33	0.0	0.0
1"	57	33	0.8	0.8
3/4"	57	33	8.3	9.1
1/2"	57	33	19.6	28.7
3/8"	57	33	11.8	40.5
#4	57	33	15.7	56.2
#8	57	33	8.1	64.3
#16	57	33	8.7	73.0
#30	57	33	8.4	81.4
#50	57	33	11.8	93.2
#100	57	33	5.4	98.6
LBW	57	33	0.8	99.4

PREPARED BY:
 SM, LLC Technical Service

Approved BY: _____



Daily Summary Report

Date Monday, September 23, 2024

Sample Id	Plant	Product
-674985405	S103 Superior Brighton	1051 6AA LS
-1073648907	S103 Superior Brighton	1067 26A Mod LS
-1124318837	S103 Superior Brighton	1022 2NS GR

Specification	Sample Type	Time
6AA LS	QA	17:04
26A Mod LS Spec	QA	17:05
2NS GR Spec	QA	17:06

2" (50mm)	100.0	100.0	100.0
1 1/2" (37.5mm)	100.0	100.0	99.1
1" (25mm)	100.0	100.0	82.9
3/4" (19mm)	86.0	100.0	64.5
1/2" (12.5mm)	49.5	99.8	45.1
3/8" (9.5mm)	24.3	90.5	21.9
#4 (4.75mm)	4.8	7.6	4.5
#8 (2.36mm)	1.9	3.4	0.7
#16 (1.18mm)	1.6	2.8	0.0
#30 (.6mm)	1.5	2.6	2.82
#50 (.3mm)	1.4	2.3	0.2
#100 (.15mm)	1.4	2.2	4.13
#200 (75um)	1.30	2.1	
Pan	0.00	0.0	
FM			
Wash Loss (#200/75um)	1.2	2.1	
Total Moisture	3.29	3.88	