

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-02**

Sample Date: **9/23/24**

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

Concrete Grade: **DM 4500HP**

Contractor: _____

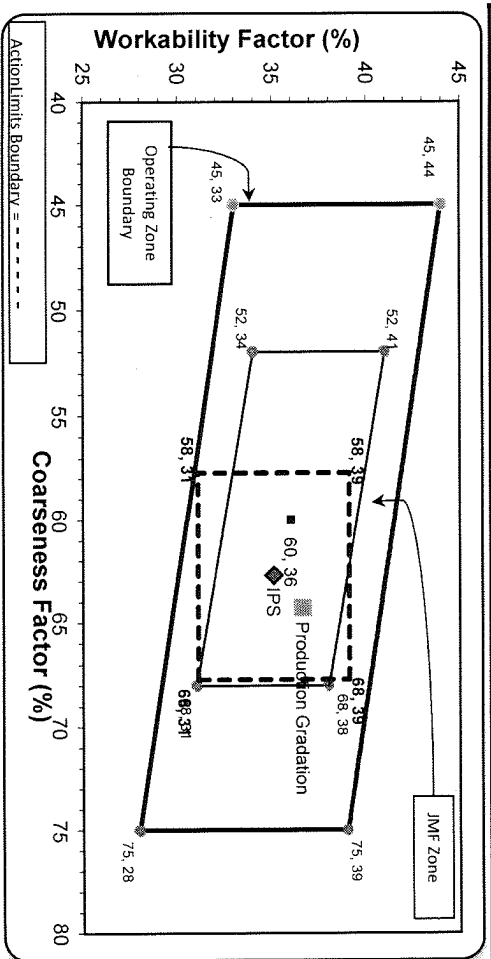
MDOT No.: _____

Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1350	8.26	2.62	46.5
26A	71-47	Presque Isle	405	2.48	2.62	13.9
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt			2905	17.69		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	90.0	8.7	10.0
1/2"	35.6	92.5	100.0	69.0	21.0	31.0
3/8"	14.6	80.9	100.0	57.7	11.4	42.3
#4	1.8	18.7	95.4	41.2	16.4	58.8
#8	1.4	5.0	82.8	34.1	7.1	65.9
#16	1.3	2.7	70.0	28.7	5.4	71.3
#30	1.3	2.1	55.0	22.7	6.0	77.3
#50	1.2	1.9	27.1	11.6	11.1	88.4
#100	1.2	1.8	7.2	3.7	7.9	96.3
LBW	0.9	1.6	1.1	1.1	2.6	98.9

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

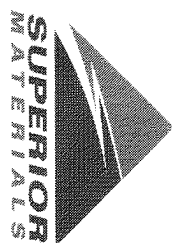
Coarseness Factor:	64	Workability Factor:	34	Adjusted WF
				36.6



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"	95.1	4.9	4.9
1/2"	74.6	20.5	25.4
3/8"	59.3	15.3	40.7
#4	42.1	17.2	57.9
#8	35.1	7.1	64.9
#16	29.2	5.9	70.8
#30	21.9	7.3	78.1
#50	9.6	12.4	90.4
#100	2.4	7.2	97.6
LBW	0.9	1.5	99.1

Initial Production Sample (IPS)

Coarseness Factor:	63	Workability Factor:	35

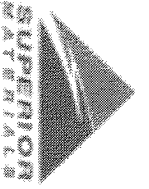


Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

*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.

PREPARED BY:
SM, LLC Technical Service

Approved By: _____



Daily Summary Report

Date Wednesday, September 25, 2024

Sample Id	-674914850	-1989627367	-674926172
Plant	Superior Hoover	Superior Hoover	Superior Hoover
Product	1051 6AA LS	1067 26A Mod LS	1022 2NS GR
Specification	6AA LS	26A LS Spec	2NS GR Spec
Sample Type	QA	QA	QA
Time	17:16	17:18	17:19
2" (50mm)	100.0	100.0	100.0
1 1/2" (37.5mm)	100.0	100.0	95.4
1" (25mm)	97.3	100.0	82.8
3/4" (19mm)	78.5	100.0	70.0
1/2" (12.5mm)	35.6	92.5	55.0
3/8" (9.5mm)	14.6	80.9	27.1
#4 (4.75mm)	1.8	18.7	7.2
#8 (2.36mm)	1.4	5.0	1.4
#16 (1.18mm)	1.3	2.7	0.0
#30 (.6mm)	1.3	2.1	0.0
#50 (.3mm)	1.2	1.9	0.0
#100 (.15mm)	1.2	1.8	0.0
#200 (75um)	1.05	1.7	0.0
Pan	0.00	0.0	0.0
FM			2.62
#200 (75um)	1.05	1.6	1.44
Wash Loss (#200/75um)	0.9	1.6	1.1
Total Moisture	3.32	2.11	4.78

Aggregate Optimization Chart

Production Gradation Report

PLANT #: p11

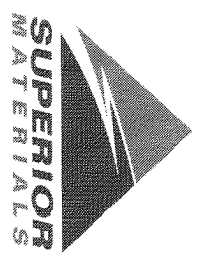
Sample Date: 9/23/24

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

Concrete Grade: DM, 4500HP

Contractor: _____

MDOT No.: _____



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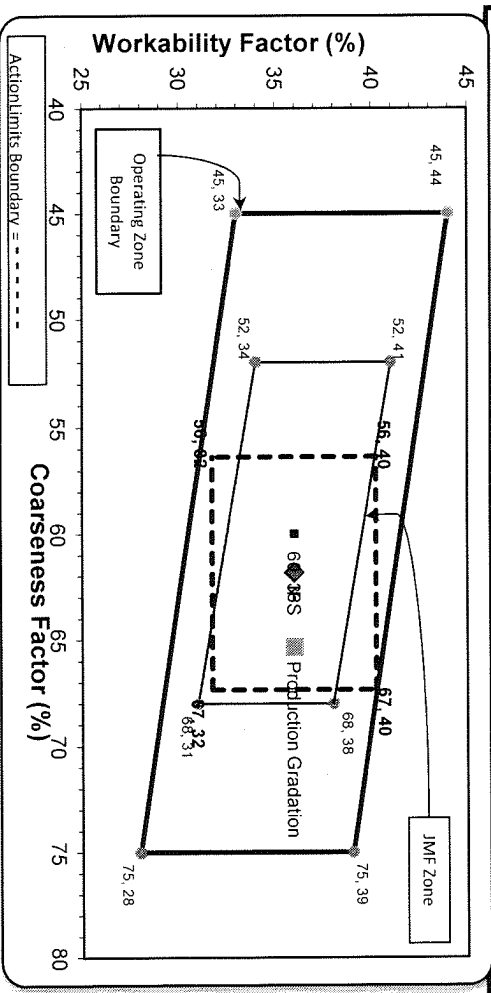
Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
GAA	71-47	Presque Isle	1355	8.29	2.62	46.6
26A	71-47	Presque Isle	400	2.45	2.62	13.8
ZNS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt:			2905	17.69		100.0

Sieve	GAA	26A	ZNS	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	10.2	12.8
1/2"	30.2	95.7	100.0	66.9	20.3	33.1
3/8"	13.4	77.7	100.0	56.5	10.3	43.5
#4	3.2	13.7	95.3	41.1	15.4	58.9
#8	2.2	3.7	80.7	33.5	7.6	66.5
#16	2.0	2.4	66.1	27.4	6.1	72.6
#30	1.9	2.1	49.8	20.9	6.5	79.1
#50	1.7	2.0	23.4	10.3	10.6	89.7
#100	1.6	1.9	5.9	3.3	7.0	96.7
LBW	1.4	1.7	0.8	1.2	2.1	98.8

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **65** Workability Factor: **33** Adjusted WF: **36.0**

Initial Production Sample (IPS) Coarseness Factor: **62** Workability Factor: **36**



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"	95.0	5.0	5.0
1/2"	72.3	22.8	27.7
3/8"	60.4	11.8	39.6
#4	42.6	17.8	57.4
#8	36.0	6.6	64.0
#16	29.5	6.5	70.5
#30	20.3	9.2	79.7
#50	9.5	10.8	90.5
#100	3.4	6.1	96.6
LBW	1.3	2.1	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.

PREPARED BY:
 SM, LLC Technical Service

Approved By: _____

Daily Summary Report

Date Thursday, September 26, 2024

Sample Id	Plant	Product	Specification	Sample Type	Time
-674942864	S000 Superior Onsite	7919 COARSE AGG P1M LS	Coarse Agg P1M LS Target	QA	17:26
-674969728	S000 Superior Onsite	1051 6AA LS		QA	17:29
-674918687	S000 Superior Onsite	7920 INTERMED AGG P1M LS	Intermed Agg P1M LS Target	QA	17:32
-674988921	S000 Superior Onsite	1067 26A Mod LS	26A Mod LS Spec	QA	17:33
-674968699	S000 Superior Onsite	1022 ZNS GR	ZNS GR Spec	QA	17:34
2" (50mm)					100.0
1 1/2" (37.5mm)					95.8
1" (25mm)					40.7
3/4" (19mm)					10.4
1/2" (12.5mm)					5.0
3/8" (9.5mm)					3.3
#4 (4.75mm)					2.2
#8 (2.36mm)					2.1
#16 (1.18mm)					2.1
#30 (.6mm)					2.0
#50 (.3mm)					2.0
#100 (.15mm)					1.8
#200 (75µm)					1.6
Pan					0.0
FM					0.0
-#200 (75µm)					1.4
Wash Loss (#200/75µm)					1.4
Total Moisture					1.7

Aggregate Optimization Chart

Production Gradation Report

PLANT #: 12

Sample Date: 9/23/24

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

Concrete Grade: DM, 4500HP

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1350	8.26	2.62	46.5
26A	71-47	Presque Isle	405	2.48	2.62	13.9
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt						17.69
						100.0

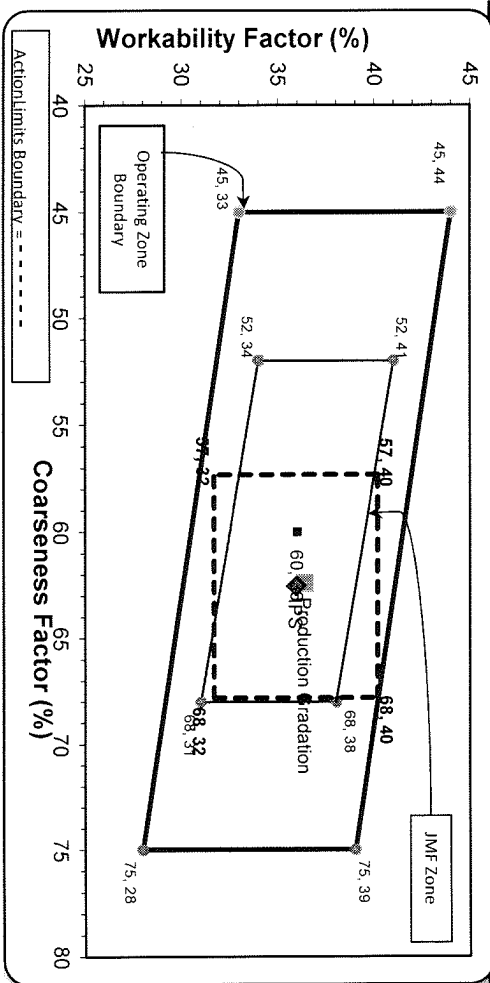
Verify this number is 100%

Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	91.3	100.0	100.0	96.0	4.0	4.0
3/4"	72.0	100.0	100.0	87.0	9.0	13.0
1/2"	31.3	93.3	100.0	67.1	19.8	32.9
3/8"	17.2	80.0	100.0	58.7	8.4	41.3
#4	3.0	15.6	95.5	41.4	17.4	58.6
#8	1.9	4.2	81.9	33.9	7.5	66.1
#16	1.7	2.7	67.5	27.9	6.0	72.1
#30	1.6	2.2	50.6	21.1	6.8	78.9
#50	1.5	2.0	22.6	9.9	11.2	90.1
#100	1.5	1.8	5.3	3.0	6.9	97.0
LBW	1.3	1.5	0.8	1.1	1.9	98.9

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	34	Adjusted WF	36.4
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Coarseness Factor:	63	Workability Factor:	36
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Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.0	10.3	11.0
1/2"	70.3	18.7	29.7
3/8"	59.9	10.4	40.1
#4	41.9	18.0	58.1
#8	35.9	6.0	64.1
#16	27.8	8.2	72.2
#30	18.9	8.8	81.1
#50	6.3	12.6	93.7
#100	1.7	4.6	98.3
LBW	1.0	0.7	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.

PREPARED BY:
SM, LLC Technical Service

Approved By: _____



EDW. C. LEVY CO.
 8906 Dix Avenue, Detroit, MI 48259
 (313) 645-7293

Superior Onsite
 Southfield

Daily Summary Report

Date: Tuesday, September 24, 2024

Sample Id	Plant	Product	Specification	Sample Type	Time	1 1/2" (37.5mm)	1" (25mm)	3/4" (19mm)	1/2" (12.5mm)	3/8" (9.5mm)	#4 (4.75mm)	#8 (2.36mm)	#16 (1.18mm)	#30 (.6mm)	#50 (.3mm)	#100 (.15mm)	#200 (75µm)	Pan	FM	#200 (75µm)	Wash Loss (#200/75µm)	Total Moisture
-315823338	S000 Superior Onsite	7919 COARSE AGG P1M LS	Coarse Agg P1M LS Target	QA	17:19	100.0	96.9	29.0	4.6	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.2	0.0	0.0	1.0	0.9	
-1989640296	S000 Superior Onsite	1051 6AA LS	26A Mod LS Spec	QA	17:21	100.0	100.0	91.3	72.0	31.3	17.2	3.0	1.9	1.7	1.6	1.5	1.5	1.36	0.00	1.3	2.5	
-674938038	S000 Superior Onsite	1067 26A Mod LS	26A Mod LS Spec	QA	17:23	100.0	100.0	100.0	100.0	93.3	80.0	15.6	4.2	2.7	2.2	2.0	1.8	1.6	0.0	1.5	2.8	
-674935909	S000 Superior Onsite	7920 INTERMED AGG P1M LS	Intermed Agg P1M LS Target	QA	17:23	100.0	100.0	100.0	99.5	84.2	66.8	16.2	4.4	2.8	2.4	2.3	2.2	2.1	0.0	2.0	1.7	
-1989661869	S000 Superior Onsite	1022 2NS GR	2NS GR Spec	QA	17:25	100.0	95.5	81.9	67.5	50.6	22.6	5.3	1.1	0.0	0.0	2.77	1.1	0.8	5.0			

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-102

Sample Date: 9/23/24

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

Concrete Grade: DM, 4500HP

Contractor: _____

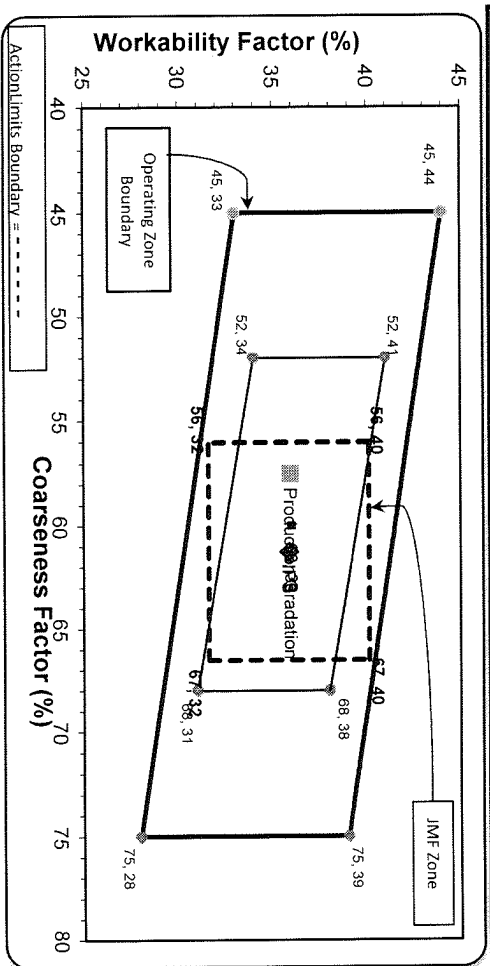
MDOT No.: _____

Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
6AA	58-003	Stoneco	1450	8.64	2.69	49.2
26A	58-003	Stoneco	350	2.09	2.69	11.9
2NS	63-114	Highland	1150	6.95	2.65	39.0
Total Wt						2950
						17.68
						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"	99.1	100.0	100.0	99.6	0.4	0.4
3/4"	84.6	100.0	100.0	92.4	7.6	7.6
1/2"	46.2	99.3	100.0	73.5	26.5	26.5
3/8"	24.4	90.8	100.0	61.7	38.3	38.3
#4	3.6	9.8	99.3	41.6	58.4	58.4
#8	1.3	3.3	83.2	33.5	66.5	66.5
#16	1.1	2.5	65.1	26.2	73.8	73.8
#30	1.0	2.2	45.8	18.6	81.4	81.4
#50	1.0	2.1	21.9	9.3	90.7	90.7
#100	0.9	2.0	4.7	2.5	97.5	97.5
LBW	0.7	1.9	0.7	0.8	99.2	99.2

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

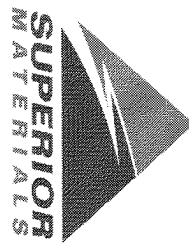
Coarseness Factor:	57	Workability Factor:	33	Adjusted WF
				36.0



Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
#8	35.9	8.5	64.1
#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3

Initial Production Sample (IPS)

Coarseness Factor:	61	Workability Factor:	36

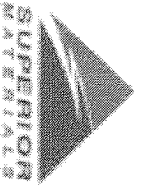


Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

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

PREPARED BY:
SM, LLC Technical Service

Approved By: _____



Daily Summary Report

Date Monday, September 23, 2024

Sample Id	Plant	Product	Specification	Sample Type	Time
-1989660364	S102 Superior Novi	7919 COARSE AGG P1M LS	Coarse Agg P1M LS Target	QA	17:06
-674929795	S102 Superior Novi	1051 6AA LS	6AA LS	QA	17:07
-674928748	S102 Superior Novi	7920 INTERMED AGG P1M LS	Intermed Agg P1M LS Target	QA	17:08
-1989630243	S102 Superior Novi	1067 26A Mod LS	26A Mod LS Spec	QA	17:09
-674915168	S102 Superior Novi	1022 2NS GR	2NS GR Spec	QA	17:10
2" (50mm)					100.0
1 1/2" (37.5mm)					100.0
1" (25mm)					54.1
3/4" (19mm)					24.4
1/2" (12.5mm)					11.3
3/8" (9.5mm)					6.8
#4 (4.75mm)					2.0
#8 (2.36mm)					1.7
#16 (1.18mm)					1.7
#30 (.6mm)					1.6
#50 (.3mm)					1.6
#100 (.15mm)					1.5
#200 (75µm)					1.5
Pan					0.0
FM					
Wash Loss (#200/75µm)					1.4
Total Moisture					1.24
					100.0
					100.0
					99.1
					84.6
					46.2
					24.4
					3.6
					1.3
					1.1
					1.0
					1.0
					1.0
					0.9
					0.86
					0.00
					1.1
					2.83
					100.0
					100.0
					100.0
					99.3
					90.8
					9.8
					3.3
					2.5
					2.2
					2.1
					2.0
					1.9
					0.0
					2.80
					0.7
					5.25

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

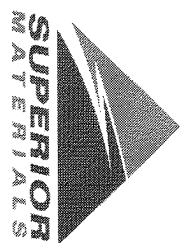
Sample Date: **9/23/24**

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

Concrete Grade: **DM, 4500HP**

Contractor: _____

MDOT No.: _____



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

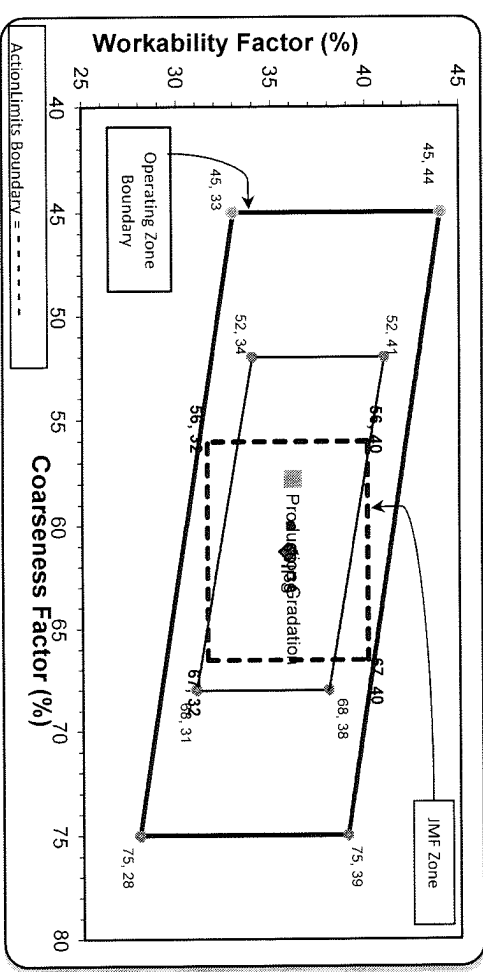
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %	
6AA	58-003	Stoneco	1450	8.64	2.69	49.2	
26A	58-003	Stoneco	350	2.09	2.69	11.9	
2NS	63-114	Highland	1150	6.95	2.65	39.0	
Total Wt						2950	100.0

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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	86.0	100.0	100.0	99.8	0.2	0.2
1/2"	49.5	99.8	100.0	95.2	4.8	5.0
3/8"	24.3	90.5	100.0	61.7	38.3	8.3
#4	4.8	7.6	99.1	41.9	58.1	14.2
#8	1.9	3.4	82.9	33.7	66.3	22.6
#16	1.6	2.8	64.5	26.3	73.7	27.1
#30	1.5	2.6	45.1	18.6	81.4	38.5
#50	1.4	2.3	21.9	9.5	90.5	48.0
#100	1.4	2.2	4.5	2.7	97.3	52.7
LBW	1.2	2.1	0.2	0.9	99.1	53.6

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **58** Workability Factor: **34** Adjusted WF: **36.2**

Initial Production Sample (IPS) Coarseness Factor: **61** Workability Factor: **36**

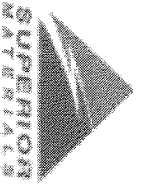


Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
#8	35.9	8.5	64.1
#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3

*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 4% for the 3/4" sieve when a 1.5" max size (nom. Max. 1.0") aggregate is used.

PREPARED BY:
 SM, LLC Technical Service

Approved BY: _____



Daily Summary Report

Date Monday, September 23, 2024

Sample Id	-674985405	-1073648907	-1124318837
Plant	S103 Superior Brighton	S103 Superior Brighton	S103 Superior Brighton
Product	1051 6AA LS	1067 26A Mod LS	1022 2NS GR
Specification	6AA LS	26A Mod LS Spec	2NS GR Spec
Sample Type	QA	QA	QA
Time	17:04	17:05	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 (75µm)	1.30	2.1	
Pan	0.00	0.0	
FM			
Wash Loss (#200/75µm)	1.2	2.1	
Total Moisture	3.29	3.88	