

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-102**

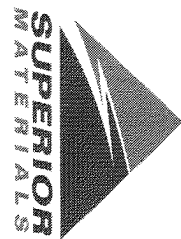
Sample Date: **6/17/24**

Dates Test Represents: **6/18/2024** through **6/24/2024**

Concrete Grade: **S2M, 3500HP**

Contractor: _____

MDOT No.: _____



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

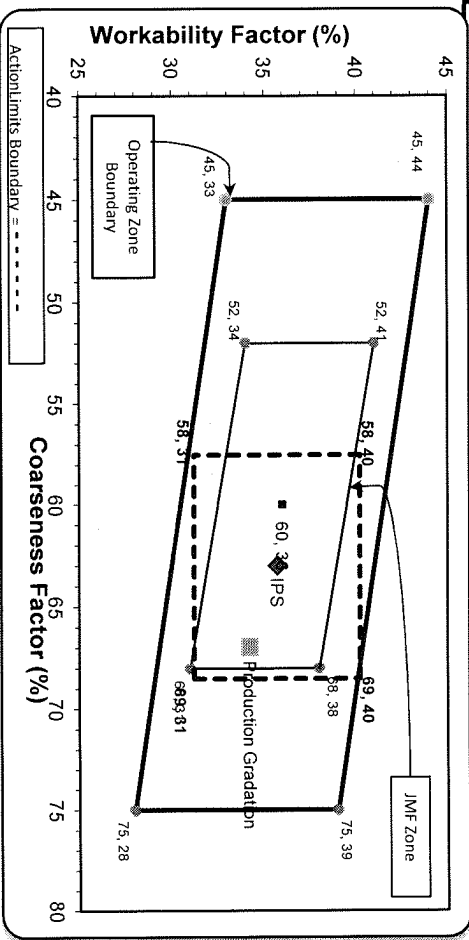
Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
6AA	58-003	Stoneco	1550	9.23	2.69	50.0
26A	58-003	Stoneco	350	2.09	2.69	11.3
ZNS	63-114	Highland	1200	7.26	2.65	38.7
Total Wt			3100	18.58		100.0

Sieve	6AA	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"	99.3	100.0	100.0	99.7	0.3	0.3
3/4"	69.5	100.0	100.0	84.8	14.9	15.3
1/2"	30.9	99.5	100.0	65.4	19.4	34.6
3/8"	14.4	89.1	100.0	56.0	9.4	44.0
#4	2.1	9.9	98.2	40.2	15.8	59.8
#8	1.2	3.4	85.9	34.2	5.9	65.8
#16	1.1	2.4	71.6	28.5	5.7	71.5
#30	1.0	2.1	54.1	21.7	6.9	78.3
#50	1.0	1.9	22.6	9.5	12.2	90.5
#100	0.9	1.9	3.9	2.2	7.3	97.8
LBW	0.6	1.8	1.1	0.9	1.2	99.1

*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: **67** Workability Factor: **34**

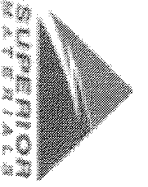


Initial Production Sample (IPS)

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	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: _____



Daily Summary Report

Date Wednesday, June 19, 2024

Sample Id	-315824848	-1989616232	-315824905
Plant	S102 Superior Novi	S102 Superior Novi	S102 Superior Novi
Product	1051 6AA LS	1022 2NS GR	1067 26A Mod LS
Specification	6AA LS	2NS GR Spec	26A Mod LS Spec
Sample Type	QA	QA	QA
Time	09:39	10:00	10:10
2" (50mm)	100.0		100.0
1 1/2" (37.5mm)	100.0		100.0
1" (25mm)	99.3		100.0
3/4" (19mm)	69.5		100.0
1/2" (12.5mm)	30.9		99.5
3/8" (9.5mm)	14.4	100.0	89.1
#4 (4.75mm)	2.1	98.2	9.9
#8 (2.36mm)	1.2	85.9	3.4
#16 (1.18mm)	1.1	71.6	2.4
#30 (6mm)	1.0	54.1	2.1
#50 (.3mm)	1.0	22.6	1.9
#100 (.15mm)	0.9	3.9	1.9
#200 (75µm)	0.83	1.2	1.9
Pan	0.00	0.0	0.0
FM		2.64	
Wash Loss (#200/75µm)	0.6	1.1	1.8
Total Moisture	3.00	3.88	3.59

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-103

Sample Date: 6/17/24

Dates Test Represents: 6/18/2024 through 6/24/2024

Concrete Grade: S2M, 3500HP

Contractor:

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %
6AA	58-003	Stoneco	1550	9.23	2.69	50.0
26A	58-003	Stoneco	350	2.09	2.69	11.3
2NS	63-114	Highland	1200	7.26	2.65	38.7
Total Wt:			3100	18.58		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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	78.1	100.0	100.0	89.1	11.0	11.0
1/2"	37.5	100.0	100.0	68.8	20.3	31.3
3/8"	16.4	86.1	100.0	56.6	12.1	43.4
#4	3.5	3.1	98.3	40.2	16.5	59.8
#8	1.8	0.9	85.2	34.0	6.2	66.0
#16	1.4	0.8	69.9	27.8	6.1	72.2
#30	1.3	0.8	51.5	20.7	7.2	79.3
#50	1.3	0.8	20.3	8.6	12.1	91.4
#100	1.2	0.8	3.1	1.9	6.7	98.1
LBW	1.0	0.7	0.6	0.8	1.1	99.2

*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max.
 nom. max. #100 and #200 sieves.
 *% 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.



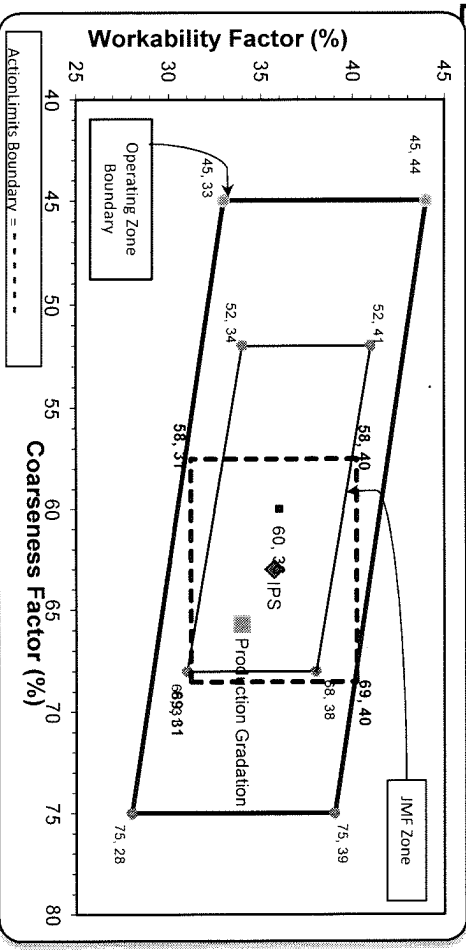
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Initial Production Sample (IPS)

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

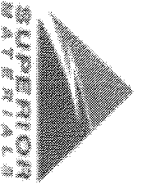
Coarseness Factor: 63 **Workability Factor:** 36



Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.2	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:



Daily Summary Report

Date Thursday, June 20, 2024

Sample Id	-674969650	-674891471	-1989650311
Plant	S103 Superior Brighton	S103 Superior Brighton	S103 Superior Brighton
Product	1022 ZNS GR	1067 26A Mod LS	1051 6AA LS
Specification	ZNS GR Spec	26A Mod LS Spec	6AA LS
Sample Type	QA	QA	QA
Time	09:40	09:41	09:42
2" (50mm)	100.0	100.0	100.0
1 1/2" (37.5mm)	100.0	100.0	100.0
1" (25mm)	100.0	100.0	100.0
3/4" (19mm)	100.0	100.0	78.1
1/2" (12.5mm)	100.0	100.0	37.5
3/8" (9.5mm)	100.0	86.1	16.4
#4 (4.75mm)	98.3	3.1	3.5
#8 (2.36mm)	85.2	0.9	1.8
#16 (1.18mm)	69.9	0.8	1.4
#30 (.6mm)	51.5	0.8	1.3
#50 (.3mm)	20.3	0.8	1.3
#100 (.15mm)	3.1	0.8	1.2
#200 (75µm)	0.7	0.8	1.12
Pan	0.0	0.0	0.00
FM	2.72		
Wash Loss (#200/75µm)	0.6	0.7	1.0
Total Moisture	3.51	1.72	2.40