

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-102

Contractor: _____

Sample Date: 8/5/24

Concrete Grade: **DM, 4500HP**

Dates Test Represents: 8/6/2024 through 8/12/2024

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stonoco	1375	8.19	2.69	46.6
26A	58-003	Stonoco	425	2.53	2.69	14.4
2NS	63-114	Highland	1150	6.95	2.65	39.0
Total Wt			2950	17.68		100.0

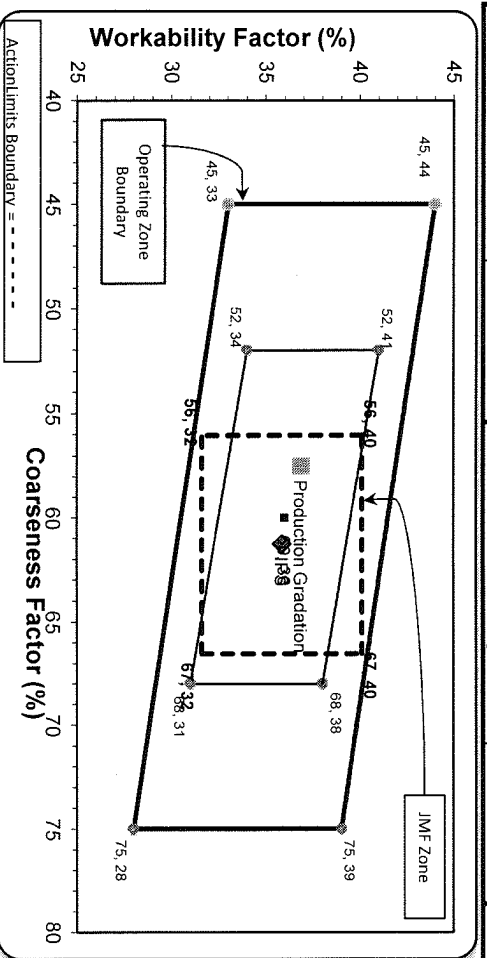
<----- Verify this number is 100%

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"	82.4	100.0	100.0	91.8	8.2	8.2
1/2"	43.4	99.3	100.0	73.5	18.3	26.5
3/8"	21.4	92.5	100.0	62.3	11.2	37.7
#4	3.2	23.3	98.9	43.4	18.9	56.6
#8	1.4	6.8	84.0	34.4	9.0	65.6
#16	1.1	3.1	65.9	26.6	7.7	73.4
#30	1.0	2.0	45.3	18.4	8.2	81.6
#50	0.9	1.7	17.6	7.5	10.9	92.5
#100	0.9	1.6	3.3	1.9	5.6	98.1
LBW	0.7	1.5	0.4	0.7	1.2	99.3

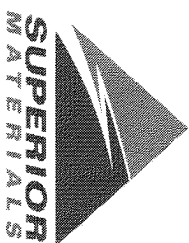
*Maximum % Retained must be above the 3/8" sieve.
 **Any two adjacent sieves must equal 10% except max.
 nom. max. #100 and #200 sieves.
 ***Retained must be at least 4% for each sieve except max.
 nom. max. #100 and #200 sieves.
 ****Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size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

Production Gradation	Batch Plant Gradations	Aggregate Supplier Gradations	Adjusted WF
<input checked="" type="radio"/> Coarseness Factor: 57	<input type="radio"/> Workability Factor: 34		36.9

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



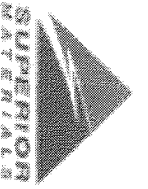
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
#8	35.9	8.5	64.1
#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3



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

PREPARED BY:
 SM, LLC Technical Service

Approved By: _____



Daily Summary Report

Date Tuesday, August 6, 2024

Sample Id	-1989659476	-1989640677	-1989660741	-674931847	-1989664056
Plant	S102 Superior Novi	S102 Superior Novi	S102 Superior Novi	S102 Superior Novi	S102 Superior Novi
Product	7919 COARSE AGG P1M LS	1051 6AA LS	7920 INTERMED AGG P1M LS	1067 26A Mod LS	1022 2NS GR
Specification	Coarse Agg P1M LS Target	6AA LS	Intermed Agg P1M LS Target	26A Mod LS Spec	2NS GR Spec
Sample Type	QA	QA	QA	QA	QA
Time	14:53	14:55	14:56	14:58	14:59
2" (50mm)	100.0	100.0	100.0	100.0	100.0
1 1/2" (37.5mm)	100.0	100.0	100.0	100.0	100.0
1" (25mm)	35.5	100.0	100.0	100.0	100.0
3/4" (19mm)	7.0	82.4	100.0	100.0	100.0
1/2" (12.5mm)	2.2	43.4	95.5	99.3	98.9
3/8" (9.5mm)	1.5	21.4	78.6	92.5	84.0
#4 (4.75mm)	1.1	3.2	21.6	23.3	65.9
#8 (2.36mm)	1.1	1.4	6.7	6.8	84.0
#16 (1.18mm)	1.0	1.1	2.8	3.1	65.9
#30 (.6mm)	1.0	1.0	1.7	2.0	45.3
#50 (.3mm)	0.9	0.9	1.4	1.7	17.6
#100 (.15mm)	0.8	0.9	1.3	1.6	3.3
#200 (75µm)	0.8	0.79	1.3	1.6	0.7
Pan	0.0	0.00	0.0	0.0	0.0
FM					2.85
Wash Loss (#200/75µm)	0.7	0.7	1.2	1.5	0.4
Total Moisture	1.32	3.33	2.49	2.91	3.15

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-02

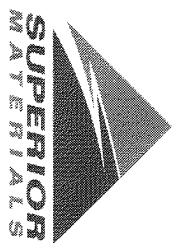
Sample Date: 8/5/24

Dates Test Represents: 8/6/2024 through 8/12/2024

Concrete Grade: DM, 4500HP

Contractor: _____

MDOT No.: _____



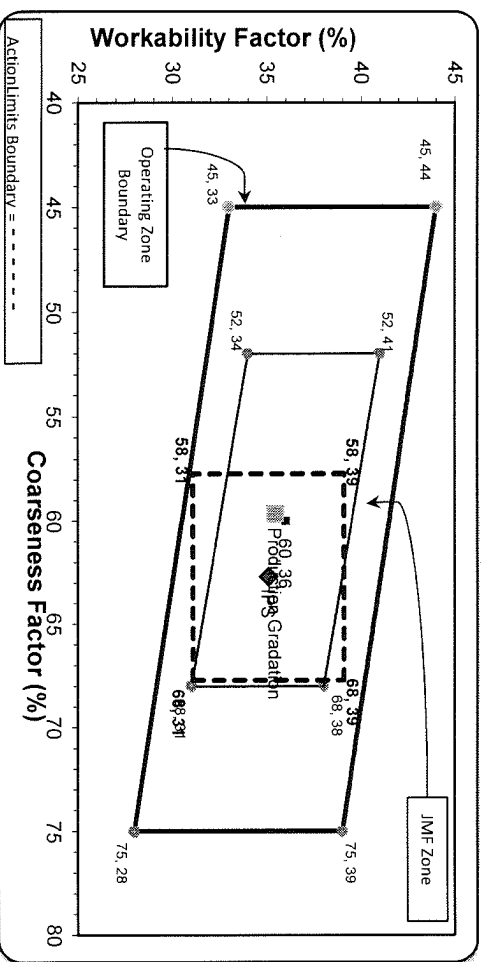
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1450	8.87	2.62	49.9
26A	71-47	Presque Isle	305	1.87	2.62	10.5
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"	97.9	100.0	100.0	99.0	1.0	1.0
3/4"	86.2	100.0	100.0	93.1	5.8	6.9
1/2"	43.6	95.3	100.0	71.4	21.8	28.6
3/8"	22.8	86.1	100.0	60.0	11.3	40.0
#4	3.2	24.8	95.4	42.0	18.0	58.0
#8	1.9	8.0	78.7	32.9	9.0	67.1
#16	1.7	4.1	63.6	26.5	6.5	73.5
#30	1.6	3.2	48.8	20.5	6.0	79.5
#50	1.6	2.8	26.9	11.7	8.7	88.3
#100	1.5	2.6	7.2	3.9	7.9	96.1
LBW	1.3	2.4	0.7	1.2	2.7	98.8

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	60	Workability Factor:	33	Adjusted WF	35.4
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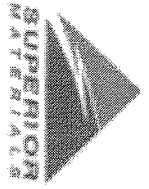


Sieve	Workability Factor:	35	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	100.0	0.0	0.0
3/4"	95.1	4.9	4.9
1/2"	74.6	20.5	25.4
3/8"	59.3	15.3	40.7
#4	42.1	17.2	57.9
#8	35.1	7.1	64.9
#16	29.2	5.9	70.8
#30	21.9	7.3	78.1
#50	9.6	12.4	90.4
#100	2.4	7.2	97.6
LBW	0.9	1.5	99.1

*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, August 8, 2024

Sample Id	-1989637637	-674901605	-674902996
Plant	S02	S02	S02
Product	1054 6AA LS Pl	1067 26A Mod LS	1022 ZNS GR
Specification	6AA LS	26A Mod LS Spec	ZNS GR Spec
Sample Type	QA	QA	QA
Time	12:28	12:30	12:32
2" (50mm)	100.0	100.0	100.0
1 1/2" (37.5mm)	100.0	100.0	95.4
1" (25mm)	97.9	100.0	78.7
3/4" (19mm)	86.2	100.0	8.0
1/2" (12.5mm)	43.6	95.3	4.1
3/8" (9.5mm)	22.8	86.1	3.2
#4 (4.75mm)	3.2	24.8	48.8
#8 (2.36mm)	1.9	8.0	63.6
#16 (1.18mm)	1.7	4.1	26.9
#30 (.6mm)	1.6	3.2	7.2
#50 (.3mm)	1.6	2.8	0.9
#100 (.15mm)	1.5	2.6	0.0
#200 (75um)	1.39	2.4	2.79
Pan	0.00	0.0	0.7
FM			4.23
Wash Loss (#200/75um)	1.3	2.4	
Total Moisture	4.00	4.52	