

# Aggregate Optimization Chart

# Production Gradation Report

PLANT #: **P-102**

Sample Date: **3/18/24**

Dates Test Represents: **3/19/2024** through **3/25/2024**

Concrete Grade: **S2M, 3500HP**

Contractor: \_\_\_\_\_

MDOT No.: \_\_\_\_\_

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	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
<b>Total Wt</b>			<b>3100</b>	<b>18.58</b>		<b>100.0</b>

Sieve	% Retained	Cumulative % Retained
2"	0.0	0.0
1.5"	0.0	0.0
1"	0.7	0.7
3/4"	7.3	8.0
1/2"	23.2	31.2
3/8"	11.0	42.3
#4	15.5	57.8
#8	6.9	64.7
#16	7.2	71.9
#30	7.6	79.5
#50	11.5	91.0
#100	6.3	97.4
LBW	1.3	98.6



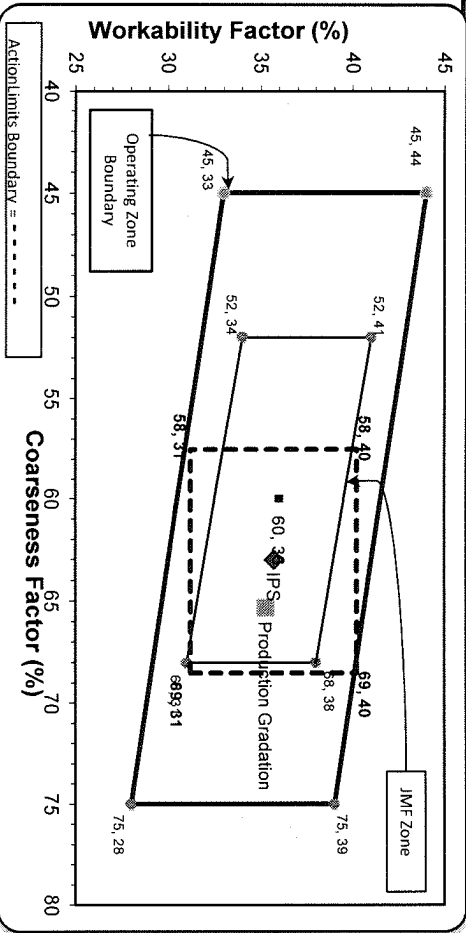
**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

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"	98.7	100.0	100.0	99.4	0.7	0.7
3/4"	84.0	100.0	100.0	92.0	7.3	8.0
1/2"	38.0	97.8	100.0	68.8	23.2	31.2
3/8"	18.2	87.8	100.0	57.7	11.0	42.3
#4	3.5	18.4	99.2	42.2	15.5	57.8
#8	2.4	7.0	86.0	35.3	6.9	64.7
#16	2.1	4.3	68.6	28.1	7.2	71.9
#30	1.9	3.6	49.4	20.5	7.6	79.5
#50	1.7	3.2	20.0	9.0	11.5	91.0
#100	1.6	3.0	3.9	2.6	6.3	97.4
LBW	1.5	2.9	0.8	1.4	1.3	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 Gradations  Aggregate Supplier Gradations

Coarseness Factor: **65** Workability Factor: **35**



Initial Production Sample (IPS)

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: \_\_\_\_\_



Plant S102-Superior Novi

Product 1051-6AA LS

Name/Title Doug Storey / QC Technician

Period: 03/17/2024 - 03/23/2024

Report Date 03/22/2024

Procedure	Sieve/Test	Result	Unit	6AA LS
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	98.7	%	95-100
	3/4" (19mm)	84.0	%	
	1/2" (12.5mm)	38.0	%	30-60
	3/8" (9.5mm)	18.2	%	
	#4 (4.75mm)	3.5	%	0-8
	#8 (2.36mm)	2.4	%	
	#16 (1.18mm)	2.1	%	
	#30 (.6mm)	1.9	%	
	#50 (.3mm)	1.7	%	
	#100 (.15mm)	1.6	%	
	#200 (75µm)	1.55	%	
	Wash Loss (#200/75um)	1.5	%	0-2
	Total Moisture	2.94	%	



Plant S102-Superior Novi

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 03/17/2024 - 03/23/2024

Report Date 03/22/2024

Procedure	Sieve/Test	Result	Unit	26A Mod LS Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	
	1" (25mm)	100.0	%	
	3/4" (19mm)	100.0	%	100-100
	1/2" (12.5mm)	97.8	%	95-100
	3/8" (9.5mm)	87.8	%	60-95
	#4 (4.75mm)	18.4	%	5-30
	#8 (2.36mm)	7.0	%	0-12
	#16 (1.18mm)	4.3	%	
	#30 (.6mm)	3.6	%	
	#50 (.3mm)	3.2	%	
	#100 (.15mm)	3.0	%	
	#200 (75µm)	2.9	%	
	Wash Loss (#200/75um)	2.9	%	0-3
	Total Moisture	3.97	%	



Plant S102-Superior Novi

Product 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 03/17/2024 - 03/23/2024

Report Date 03/22/2024

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	99.2	%	95-100
	#8 (2.36mm)	86.0	%	65-95
	#16 (1.18mm)	68.6	%	35-75
	#30 (.6mm)	49.4	%	20-55
	#50 (.3mm)	20.0	%	10-30
	#100 (.15mm)	3.9	%	0-10
	#200 (75µm)	0.9	%	
	FM	2.73		2.6-3
	Wash Loss (#200/75um)	0.8	%	0-3
	Total Moisture	2.55	%	