

# Aggregate Optimization Chart

# Production Gradation Report

PLANT #: **P-102**

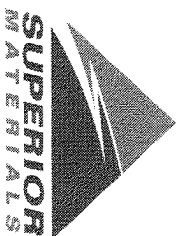
Sample Date: 11/13/23

Dates Test Represents: 11/14/2023 through 11/20/2023

Concrete Grade: **P1M, 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 <sup>3</sup>	Specific Gravity	Contribution %
CA	58-003	Stoneco	1370	8.16	2.69	43.9
IA	58-003	Stoneco	550	3.28	2.69	17.6
NNS	81-019	Pleasant Lake	1200	7.26	2.65	38.5
			<b>Total Wt</b>	<b>3120</b>		<b>100.0</b>

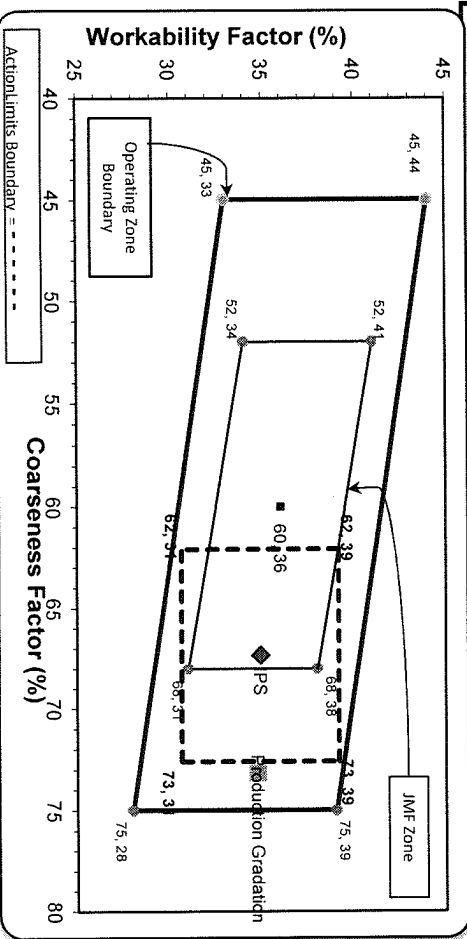
  

Sieve	CA	IA	NNS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	27.9	100.0	100.0	68.3	31.7	31.7
3/4"	4.9	100.0	100.0	58.2	10.1	41.8
1/2"	2.0	91.6	100.0	55.5	2.8	44.5
3/8"	1.8	73.8	100.0	52.3	3.2	47.7
#4	1.8	21.9	98.5	42.5	9.7	57.5
#8	1.7	8.5	84.5	34.7	7.8	65.3
#16	1.7	4.8	65.1	26.6	8.1	73.4
#30	1.7	3.6	45.0	18.7	7.9	81.3
#60	1.6	3.2	19.4	8.7	10.0	91.3
#100	1.4	3.0	3.7	2.6	6.2	97.4
LBW	1.2	2.8	0.7	1.3	1.3	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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Initial Production Sample (IPS)



Sieve	Workability Factor:	Cumulative % Passing	% Retained	Cumulative % Retained
2"	45	100.0	0.0	0.0
1.5"	45	100.0	0.0	0.0
1"	45	85.5	14.5	14.5
3/4"	45	73.4	12.1	26.6
1/2"	45	61.0	12.4	39.0
3/8"	45	56.2	4.8	43.8
#4	45	43.1	13.1	56.9
#8	45	34.9	8.2	65.1
#16	45	29.4	5.5	70.6
#30	45	21.6	7.8	78.4
#60	45	8.1	13.4	91.9
#100	45	2.2	5.9	97.8
LBW	45	1.4	0.8	98.6

PREPARED BY:  
 SM, LLC Technical Service

Approved By: \_\_\_\_\_



**Plant** S102-Superior Novi

**Product** 7919-COARSE AGG P1M LS

**Name/Title** Doug Storey / QC Technician

**Period:** 11/12/2023 - 11/18/2023

**Report Date** 11/18/2023

Procedure	Sieve/Test	Result	Unit	Coarse Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	
	1" (25mm)	27.9	%	
	3/4" (19mm)	4.9	%	
	1/2" (12.5mm)	2.0	%	
	3/8" (9.5mm)	1.8	%	
	#4 (4.75mm)	1.8	%	
	#8 (2.36mm)	1.7	%	
	#16 (1.18mm)	1.7	%	
	#30 (.6mm)	1.7	%	
	#50 (.3mm)	1.6	%	
	#100 (.15mm)	1.4	%	
	#200 (75µm)	1.3	%	
	Wash Loss (#200/75um)	1.2	%	0-2
	Total Moisture	0.11	%	



Plant S102-Superior Novi

Product 7920-INTERMED AGG P1M LS

Name/Title Doug Storey / QC Technician

Period: 11/12/2023 - 11/18/2023

Report Date 11/18/2023

Procedure	Sieve/Test	Result	Unit	Intermed Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	
	1" (25mm)	100.0	%	
	3/4" (19mm)	100.0	%	
	1/2" (12.5mm)	91.6	%	
	3/8" (9.5mm)	73.8	%	
	#4 (4.75mm)	21.9	%	
	#8 (2.36mm)	8.5	%	
	#16 (1.18mm)	4.8	%	
	#30 (.6mm)	3.6	%	
	#50 (.3mm)	3.2	%	
	#100 (.15mm)	3.0	%	
	#200 (75µm)	2.8	%	
	Wash Loss (#200/75um)	2.8	%	0-3
	Total Moisture	2.53	%	



Plant S102-Superior Novi

Product 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 11/12/2023 - 11/18/2023

Report Date 11/18/2023

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	98.5	%	95-100
	#8 (2.36mm)	84.5	%	65-95
	#16 (1.18mm)	65.1	%	35-75
	#30 (.6mm)	45.0	%	20-55
	#50 (.3mm)	19.4	%	10-30
	#100 (.15mm)	3.7	%	0-10
	#200 (75µm)	0.7	%	
	FM	2.84		2.6-3
	Wash Loss (#200/75um)	0.7	%	0-3
	Total Moisture	3.29	%	