

# 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:** DM, 4500HP

**Contractor:**

**MDOT No.:**

Agg. Class	Pit #	Source	Weight (ssd)	ft <sup>3</sup>	Specific Gravity	Contribution %
6AA	58-003	Stoneco	1400	8.34	2.69	47.5
26A	58-003	Stoneco	400	2.38	2.69	13.6
2NS	63-114	Highland	1150	6.95	2.65	39.0
<b>Total Wt</b>						<b>17.68</b>
						<b>100.0</b>

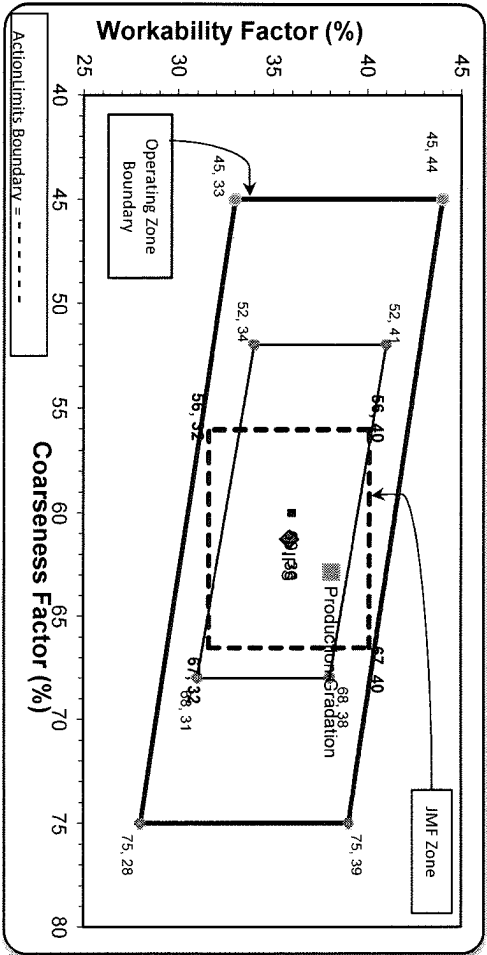
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	98.7	100.0	100.0	99.4	0.6	0.6
3/4"	84.0	100.0	100.0	92.4	7.0	7.6
1/2"	38.0	97.8	100.0	70.3	22.1	29.7
3/8"	18.2	87.8	100.0	59.5	10.8	40.5
#4	3.5	18.4	99.2	42.8	16.7	57.2
#8	2.4	7.0	86.0	35.6	7.2	64.4
#16	2.1	4.3	68.6	28.3	7.3	71.7
#30	1.9	3.6	49.4	20.6	7.7	79.4
#50	1.7	3.2	20.0	9.0	11.6	91.0
#100	1.6	3.0	3.9	2.7	6.4	97.3
LBW	1.5	2.9	0.8	1.4	1.3	98.6

**Production Gradation**  Batch Plant Gradations  Aggregate Supplier Gradations

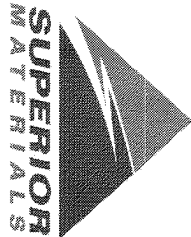
Coarseness Factor:	63	Workability Factor:	36	Adjusted WF	38.1
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**Initial Production Sample (IPS)**

Coarseness Factor:	61	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"	89.2	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**  
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 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:



**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	%	