

# Aggregate Optimization Chart

# Production Gradation Report

PLANT #: **P-32**

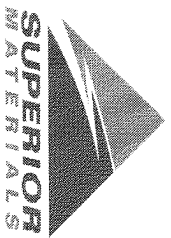
Sample Date: **5/23/22**

Dates Test Represents: **5/24/2022** through **5/30/2022**

Concrete Grade: **DM, 4500HP**

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

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



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

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

Agg. Class	Pit #	Source	Weight (ssd)	ft <sup>3</sup>	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1505	9.21	2.62	51.8
26A	71-47	Presque Isle	250	1.53	2.62	8.6
2NS	95-013	Smelter Bay	1150	6.95	2.65	39.6
		<b>Total Wt</b>	<b>2905</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"	97.0	100.0	100.0	98.4	1.6	1.6
3/4"	81.3	100.0	100.0	90.3	8.1	9.7
1/2"	42.6	94.1	100.0	69.8	20.6	30.2
3/8"	23.7	83.4	100.0	59.0	10.7	41.0
#4	5.6	27.5	96.6	43.5	15.5	56.5
#8	3.0	8.6	84.6	35.8	7.7	64.2
#16	2.6	4.1	69.8	29.3	6.5	70.7
#30	2.4	3.1	50.8	21.6	7.7	78.4
#50	2.3	2.7	24.5	11.1	10.5	88.9
#100	2.2	2.5	6.9	4.1	7.0	95.9
LBW	1.7	2.2	1.3	1.6	2.5	98.4

\*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.

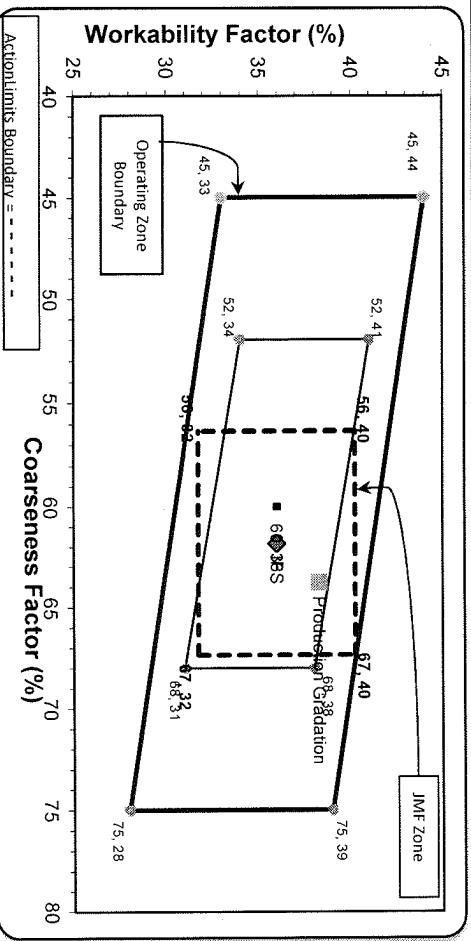
Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Coarseness Factor: **64** Workability Factor: **36** Adjusted WF: **38.3**

Initial Production Sample (IPS)

Coarseness Factor: **62** 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"	100.0	0.0	0.0
3/4"	95.0	5.0	5.0
1/2"	72.3	22.8	27.7
3/8"	60.4	11.8	39.6
#4	42.6	17.8	57.4
#8	36.0	6.6	64.0
#16	29.5	6.5	70.5
#30	20.3	9.2	79.7
#50	9.5	10.8	90.5
#100	3.4	6.1	96.6
LBW	1.3	2.1	98.7



PREPARED BY:  
 SM, LLC Technical Service

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

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Doug Storey / QC Technician

Period: 05/22/2022 - 05/28/2022

Report Date 05/27/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.6	%	95-100
	#8 (2.36mm)	84.6	%	65-95
	#16 (1.18mm)	69.8	%	35-75
	#30 (.6mm)	50.8	%	20-55
	#50 (.3mm)	24.5	%	10-30
	#100 (.15mm)	6.9	%	0-10
	#200 (75µm)	1.7	%	
	FM	2.67		2.6-3
	Wash Loss (#200/75um)	1.3	%	0-3
	Total Moisture	4.9	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 05/22/2022 - 05/28/2022

Report Date 05/27/2022

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)	94.1	%	95-100
	3/8" (9.5mm)	83.4	%	60-95
	#4 (4.75mm)	27.5	%	5-30
	#8 (2.36mm)	8.6	%	0-12
	#16 (1.18mm)	4.1	%	
	#30 (.6mm)	3.1	%	
	#50 (.3mm)	2.7	%	
	#100 (.15mm)	2.5	%	
	#200 (75µm)	2.3	%	
	Wash Loss (#200/75um)	2.2	%	0-3
	Total Moisture	3.3	%	

Plant 958-JMT

Product 1054-6AA LS PI

Name/Title Doug Storey / QC Technician

Period: 05/22/2022 - 05/28/2022

Report Date 05/27/2022

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	97.0	%	95-100
	3/4" (19mm)	81.3	%	
	1/2" (12.5mm)	42.6	%	30-60
	3/8" (9.5mm)	23.7	%	
	#4 (4.75mm)	5.6	%	0-8
	#8 (2.36mm)	3.0	%	
	#16 (1.18mm)	2.6	%	
	#30 (.6mm)	2.4	%	
	#50 (.3mm)	2.3	%	
	#100 (.15mm)	2.2	%	
	#200 (75µm)	1.9	%	
	Wash Loss (#200/75um)	1.7	%	0-2
	Total Moisture	1.9	%	