

# Aggregate Optimization Chart

# Production Gradation Report

PLANT #: **P-32**

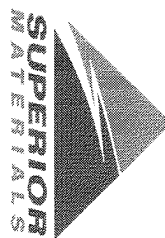
Sample Date: **6/20/22**

Dates Test Represents: **6/21/2022** through **6/27/2022**

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 <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1305	7.98	2.62	44.9
26A	71-47	Presque Isle	450	2.75	2.62	15.5
2NS	95-013	Smelter Bay	1150	6.95	2.65	39.6
<b>Total Wt</b>			<b>2905</b>	<b>17.69</b>		<b>100.0</b>

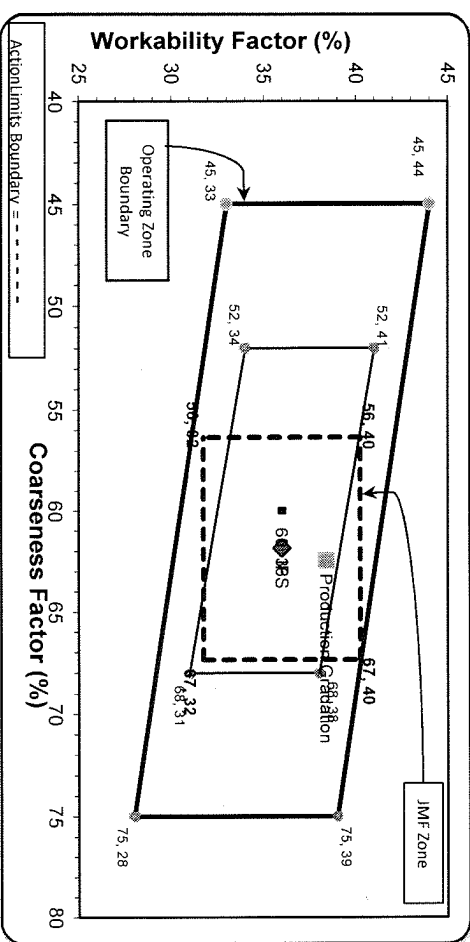
  

Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	96.5	100.0	100.0	98.4	1.6	1.6
3/4"	76.8	100.0	100.0	89.6	8.8	10.4
1/2"	34.6	95.4	100.0	69.9	19.7	30.1
3/8"	15.4	86.9	100.0	60.0	9.9	40.0
#4	3.2	30.4	96.7	44.4	15.5	55.6
#8	2.0	10.0	84.5	35.9	8.5	64.1
#16	1.8	4.5	69.5	29.0	6.9	71.0
#30	1.7	3.2	49.8	21.0	8.0	79.0
#50	1.6	2.8	24.3	10.8	10.2	89.2
#100	1.5	2.6	6.7	3.7	7.0	96.3
LBW	1.1	2.1	1.1	1.3	2.5	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

Coarseness Factor: **62** Workability Factor: **36** Adjusted WF: **38.4**



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: 06/19/2022 - 06/25/2022

Report Date 06/24/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.7	%	95-100
	#8 (2.36mm)	84.5	%	65-95
	#16 (1.18mm)	69.5	%	35-75
	#30 (.6mm)	49.8	%	20-55
	#50 (.3mm)	24.3	%	10-30
	#100 (.15mm)	6.7	%	0-10
	#200 (75µm)	1.5	%	
	FM	2.69		2.6-3
	Wash Loss (#200/75um)	1.1	%	0-3
	Total Moisture	4.7	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 06/19/2022 - 06/25/2022

Report Date 06/24/2022

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)	95.4	%	95-100
	3/8" (9.5mm)	86.9	%	60-95
	#4 (4.75mm)	30.4	%	5-30
	#8 (2.36mm)	10.0	%	0-12
	#16 (1.18mm)	4.5	%	
	#30 (.6mm)	3.2	%	
	#50 (.3mm)	2.8	%	
	#100 (.15mm)	2.6	%	
	#200 (75µm)	2.3	%	
	Wash Loss (#200/75um)	2.1	%	0-3
	Total Moisture	2.5	%	

Plant 958-JMT

Product 1054-6AA LS PI

Name/Title Doug Storey / QC Technician

Period: 06/19/2022 - 06/25/2022

Report Date 06/24/2022

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	96.5	%	95-100
	3/4" (19mm)	76.8	%	
	1/2" (12.5mm)	34.6	%	30-60
	3/8" (9.5mm)	15.4	%	
	#4 (4.75mm)	3.2	%	0-8
	#8 (2.36mm)	2.0	%	
	#16 (1.18mm)	1.8	%	
	#30 (.6mm)	1.7	%	
	#50 (.3mm)	1.6	%	
	#100 (.15mm)	1.5	%	
	#200 (75µm)	1.3	%	
	Wash Loss (#200/75um)	1.1	%	0-2
	Total Moisture	2.6	%	