

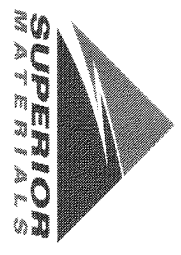
# Aggregate Optimization Chart

# Production Gradation Report

PLANT #: **P-32**

Sample Date: **1/10/22**  
 Dates Test Represents: **1/11/2022** through **1/17/2022**  
 Concrete Grade: **DM**

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	1555	9.51	2.62	53.5
26A	71-47	Presque Isle	200	1.22	2.62	6.9
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>

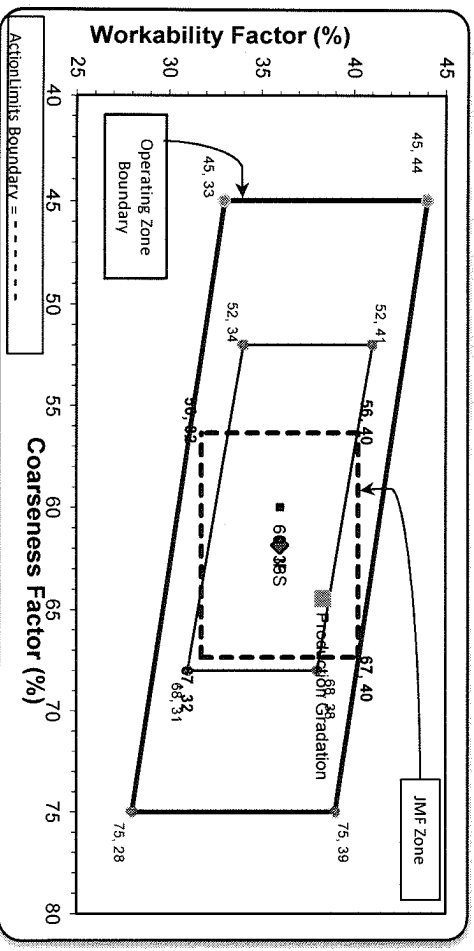
  

Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	96.0	100.0	100.0	97.9	2.1	2.1
3/4"	75.0	100.0	100.0	86.6	13.4	13.4
1/2"	38.5	95.2	100.0	66.7	33.3	33.3
3/8"	24.5	86.2	100.0	58.6	41.4	41.4
#4	6.3	29.5	97.0	43.8	56.2	56.2
#8	3.0	11.7	84.4	35.8	64.2	64.2
#16	2.5	6.9	68.7	29.0	71.0	71.0
#30	2.3	5.1	48.8	20.9	79.1	79.1
#50	2.1	3.9	23.3	10.6	89.4	89.4
#100	1.9	3.0	6.9	4.0	96.0	96.0
LBW	1.5	2.5	1.6	1.6	98.4	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 W/F: **38.3**



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: 01/09/2022 - 01/15/2022

Report Date 01/14/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	97.0	%	95-100
	#8 (2.36mm)	84.4	%	65-95
	#16 (1.18mm)	68.7	%	35-75
	#30 (.6mm)	48.8	%	20-55
	#50 (.3mm)	23.3	%	10-30
	#100 (.15mm)	6.9	%	0-10
	#200 (75µm)	2.0	%	
	FM	2.71		2.6-3
	Wash Loss (#200/75um)	1.6	%	0-3
	Total Moisture	5.2	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 01/09/2022 - 01/15/2022

Report Date 01/14/2022

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)	95.2	%	95-100
	3/8" (9.5mm)	86.2	%	60-95
	#4 (4.75mm)	29.5	%	5-30
	#8 (2.36mm)	11.7	%	0-12
	#16 (1.18mm)	6.9	%	
	#30 (.6mm)	5.1	%	
	#50 (.3mm)	3.9	%	
	#100 (.15mm)	3.0	%	
	#200 (75µm)	2.6	%	
	Wash Loss (#200/75um)	2.5	%	0-3
	Total Moisture	4.0	%	

**Plant** 958-JMT

**Product** 1054-6AA LS PI

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

**Period:** 01/09/2022 - 01/15/2022

**Report Date** 01/14/2022

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	96.0	%	95-100
	3/4" (19mm)	75.0	%	
	1/2" (12.5mm)	38.5	%	30-60
	3/8" (9.5mm)	24.5	%	
	#4 (4.75mm)	6.3	%	0-8
	#8 (2.36mm)	3.0	%	
	#16 (1.18mm)	2.5	%	
	#30 (.6mm)	2.3	%	
	#50 (.3mm)	2.1	%	
	#100 (.15mm)	1.9	%	
	#200 (75µm)	1.7	%	
	Wash Loss (#200/75µm)	1.5	%	0-2
	Total Moisture	3.3	%	