

# Aggregate Optimization Chart

# Production Gradation Report

PLANT #: **P-32**

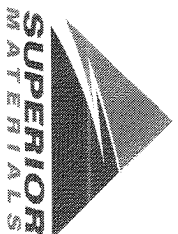
Sample Date: **4/5/21**

Dates Test Represents: **4/6/2021** through **4/12/2021**

Concrete Grade: **S2M**

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	1620	9.91	2.62	53.1	
26A	71-47	Presque Isle	200	1.22	2.62	6.6	
2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3	
<b>Total Wt</b>						<b>3050</b>	<b>100.0</b>

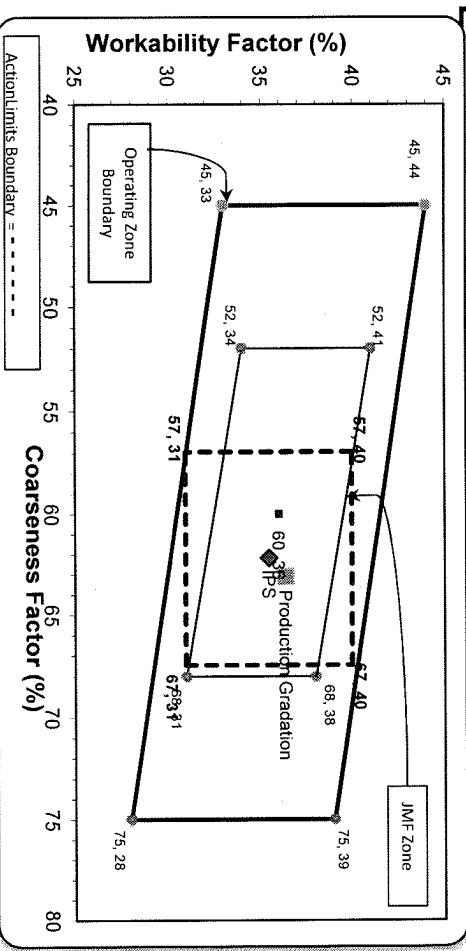
  

Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	98.3	100.0	100.0	99.1	0.9	0.9
3/4"	85.9	100.0	100.0	92.5	6.6	7.5
1/2"	47.2	95.7	100.0	71.7	20.8	28.3
3/8"	26.4	83.8	100.0	59.8	11.8	40.2
#4	5.5	22.3	96.6	43.3	16.5	56.7
#8	3.2	8.4	84.6	36.4	7.0	63.6
#16	2.7	4.2	69.7	29.8	6.5	70.2
#30	2.5	3.1	48.5	21.1	8.7	78.9
#50	2.3	2.3	22.7	10.5	10.6	89.5
#100	2.3	2.1	5.2	3.5	7.1	96.5
LBW	1.8	1.5	1.4	1.6	1.8	98.4

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

\*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: **63** Workability Factor: **36**



Initial Production Sample (IPS)

Sieve	Coarseness Factor:	Workability Factor:	% Retained	Cumulative % Retained
2"	<b>62</b>	<b>35</b>	0.0	0.0
1.5"			0.0	0.0
1"			0.0	0.0
3/4"			6.0	6.0
1/2"			23.7	29.8
3/8"			10.4	40.1
#4			17.2	57.3
#8			7.2	64.5
#16			7.0	71.6
#30			9.2	80.8
#50			10.3	91.1
#100			5.9	96.9
LBW			1.7	98.6

PREPARED BY:  
SM, LLC Technical Service

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

**Plant** 958-JMT

**Product** 1022-2NS GR - Smelter Bay

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

**Period:** 04/04/2021 - 04/10/2021

**Report Date** 04/09/2021

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)	69.7	%	35-75
	#30 (.6mm)	48.5	%	20-55
	#50 (.3mm)	22.7	%	10-30
	#100 (.15mm)	5.2	%	0-10
	#200 (75µm)	1.8	%	
	FM	2.73		2.6-3
	Wash Loss (#200/75um)	1.4	%	0-3
	Total Moisture	3.4	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 04/04/2021 - 04/10/2021

Report Date 04/09/2021

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)	95.7	%	95-100
	3/8" (9.5mm)	83.8	%	60-95
	#4 (4.75mm)	22.3	%	5-30
	#8 (2.36mm)	8.4	%	0-12
	#16 (1.18mm)	4.2	%	
	#30 (.6mm)	3.1	%	
	#50 (.3mm)	2.3	%	
	#100 (.15mm)	2.1	%	
	#200 (75µm)	1.7	%	
	Wash Loss (#200/75um)	1.5	%	0-3
	Total Moisture	3.8	%	

Plant 958-JMT

Product 1054-6AA LS PI

Name/Title Doug Storey / QC Technician

Period: 04/04/2021 - 04/10/2021

Report Date 04/09/2021

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	98.3	%	95-100
	3/4" (19mm)	85.9	%	
	1/2" (12.5mm)	47.2	%	30-60
	3/8" (9.5mm)	26.4	%	
	#4 (4.75mm)	5.5	%	0-8
	#8 (2.36mm)	3.2	%	
	#16 (1.18mm)	2.7	%	
	#30 (.6mm)	2.5	%	
	#50 (.3mm)	2.3	%	
	#100 (.15mm)	2.3	%	
	#200 (75µm)	2.0	%	
	Wash Loss (#200/75um)	1.8	%	0-2
	Total Moisture	3.0	%	