

# Aggregate Optimization Chart

# Production Gradation Report

PLANT #: **P-32**

Sample Date: **6/13/22**

Dates Test Represents: **6/14/2022** through **6/20/2022**

Concrete Grade: **DM, 4500HP**

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

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

Aggr. 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>17.69</b>
						<b>100.0</b>

Verify this number is 100%

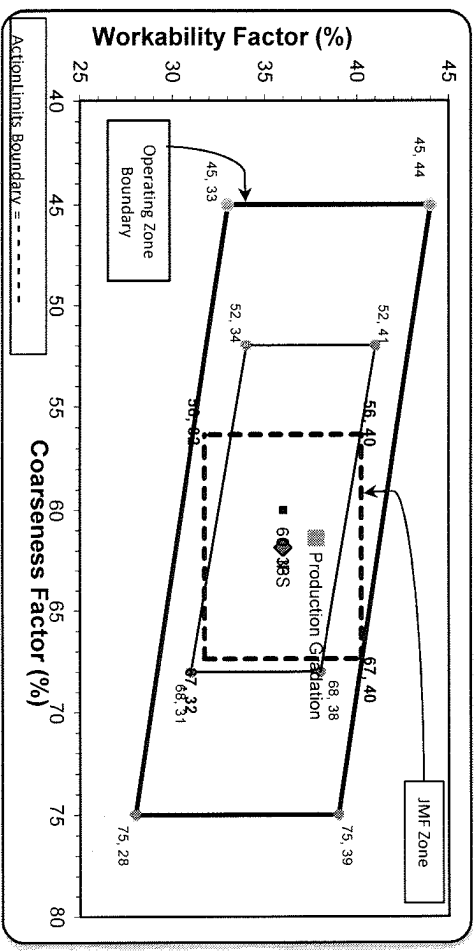
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	97.6	100.0	100.0	98.9	1.1	1.1
3/4"	83.6	100.0	100.0	92.6	6.3	7.4
1/2"	35.2	95.8	100.0	70.2	22.4	29.8
3/8"	15.6	88.3	100.0	60.3	10.0	39.7
#4	3.0	31.0	95.5	44.0	16.3	56.0
#8	2.1	9.9	82.9	35.3	8.7	64.7
#16	1.9	4.2	68.2	28.5	6.8	71.5
#30	1.8	2.8	48.9	20.6	7.9	79.4
#50	1.7	2.4	23.6	10.5	10.1	89.5
#100	1.6	2.3	6.4	3.6	6.9	96.4
LBW	1.2	2.0	0.6	1.1	2.5	98.9

\*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

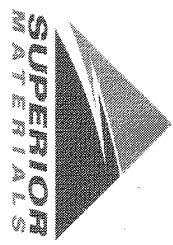
Coarseness Factor: **61** Workability Factor: **35** Adjusted WF: **37.8**

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

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



PREPARED BY:  
 SM, LLC Technical Service

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

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Doug Storey / QC Technician

Period: 06/12/2022 - 06/18/2022

Report Date 06/17/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	95.5	%	95-100
	#8 (2.36mm)	82.9	%	65-95
	#16 (1.18mm)	68.2	%	35-75
	#30 (.6mm)	48.9	%	20-55
	#50 (.3mm)	23.6	%	10-30
	#100 (.15mm)	6.4	%	0-10
	#200 (75µm)	1.2	%	
	FM	2.74		2.6-3
	Wash Loss (#200/75um)	0.6	%	0-3
	Total Moisture	4.4	%	

Plant 958-JMT  
 Product 1067-26A Mod LS  
 Period: 06/12/2022 - 06/18/2022

Name/Title Doug Storey / QC Technician  
 Report Date 06/17/2022

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)	95.8	%	95-100
	3/8" (9.5mm)	88.3	%	60-95
	#4 (4.75mm)	31.0	%	5-30
	#8 (2.36mm)	9.9	%	0-12
	#16 (1.18mm)	4.2	%	
	#30 (.6mm)	2.8	%	
	#50 (.3mm)	2.4	%	
	#100 (.15mm)	2.3	%	
	#200 (75µm)	2.1	%	
	Wash Loss (#200/75um)	2.0	%	0-3
	Total Moisture	3.6	%	

Plant 958-JMT

Product 1054-6AA LS PI

Name/Title Doug Storey / QC Technician

Period: 06/12/2022 - 06/18/2022

Report Date 06/17/2022

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	97.6	%	95-100
	3/4" (19mm)	83.6	%	
	1/2" (12.5mm)	35.2	%	30-60
	3/8" (9.5mm)	15.6	%	
	#4 (4.75mm)	3.0	%	0-8
	#8 (2.36mm)	2.1	%	
	#16 (1.18mm)	1.9	%	
	#30 (.6mm)	1.8	%	
	#50 (.3mm)	1.7	%	
	#100 (.15mm)	1.6	%	
	#200 (75µm)	1.3	%	
	Wash Loss (#200/75um)	1.2	%	0-2
	Total Moisture	2.1	%	