

# Aggregate Optimization Chart

# Production Gradation Report

PLANT #: 11

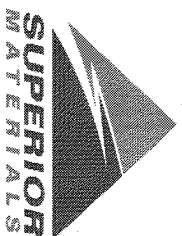
Sample Date: 11/7/22

Dates Test Represents: 11/8/2022 through 11/14/2022

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 %
GAA	71-47	Presque Isle	1405	8.59	2.62	48.4
26A	71-47	Presque Isle	350	2.14	2.62	12.0
ZNS	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>

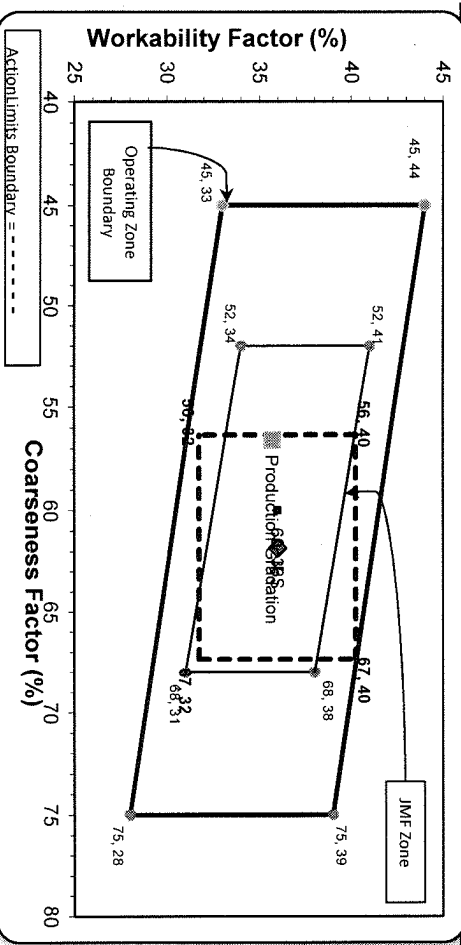
Sieve	% Retained	Cumulative % Retained
2"	0.0	0.0
1.5"	0.0	0.0
1"	1.3	1.3
3/4"	7.4	8.7
1/2"	17.2	25.9
3/8"	12.0	37.8
#4	18.2	56.0
#8	10.8	66.8
#16	7.3	74.1
#30	6.0	80.1
#50	9.3	89.4
#100	7.7	97.1
LBW	1.7	98.8

\*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: **57** Workability Factor: **33** Adjusted WF: **35.7**

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 S11-Superior Onsite Jefferson

Product 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 11/06/2022 - 11/12/2022

Report Date 11/11/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	97.1	%	95-100
	#8 (2.36mm)	78.6	%	65-95
	#16 (1.18mm)	61.7	%	35-75
	#30 (.6mm)	46.8	%	20-55
	#50 (.3mm)	23.5	%	10-30
	#100 (.15mm)	4.3	%	0-10
	#200 (75µm)	0.6	%	
	FM	2.88		2.6-3
	Wash Loss (#200/75um)	0.5	%	0-3
	Total Moisture	4.50	%	



Plant S11-Superior Onsite Jefferson

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 11/06/2022 - 11/12/2022

Report Date 11/11/2022

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)	98.1	%	95-100
	3/8" (9.5mm)	85.6	%	60-95
	#4 (4.75mm)	26.0	%	5-30
	#8 (2.36mm)	7.7	%	0-12
	#16 (1.18mm)	4.0	%	
	#30 (.6mm)	3.4	%	
	#50 (.3mm)	3.2	%	
	#100 (.15mm)	3.1	%	
	#200 (75µm)	2.9	%	
	Wash Loss (#200/75um)	2.8	%	0-3
	Total Moisture	2.43	%	



Plant S11-Superior Onsite Jefferson

Product 1051-6AA LS

Name/Title Doug Storey / QC Technician

Period: 11/06/2022 - 11/12/2022

Report Date 11/11/2022

Procedure	Sieve/Test	Result	Unit	6AA LS
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	97.4	%	95-100
	3/4" (19mm)	82.0	%	
	1/2" (12.5mm)	47.0	%	30-60
	3/8" (9.5mm)	25.4	%	
	#4 (4.75mm)	5.0	%	0-8
	#8 (2.36mm)	2.4	%	
	#16 (1.18mm)	2.1	%	
	#30 (.6mm)	2.0	%	
	#50 (.3mm)	1.9	%	
	#100 (.15mm)	1.8	%	
	#200 (75µm)	1.55	%	
	Wash Loss (#200/75um)	1.4	%	0-2
	Total Moisture	3.35	%	