

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-32**

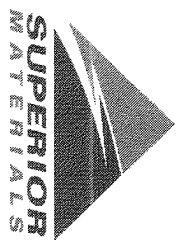
Sample Date: **5/24/21**

Dates Test Represents: **5/25/2021** through **5/31/2021**

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 ³	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1500	9.17	2.62	49.2
26A	71-47	Presque Isle	320	1.96	2.62	10.5
2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3
			Total Wt:	3050	18.57	100.0

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"	96.9	100.0	100.0	98.5	1.5	1.5
3/4"	77.7	100.0	100.0	89.0	9.4	11.0
1/2"	41.1	98.7	100.0	70.9	18.1	29.1
3/8"	21.5	91.5	100.0	60.5	10.4	39.5
#4	3.1	27.2	96.7	43.4	17.1	56.6
#8	2.2	8.7	83.4	35.6	7.7	64.4
#16	2.1	4.1	67.0	28.5	7.1	71.5
#30	2.1	3.2	43.8	19.0	9.5	81.0
#50	2.0	2.6	19.0	8.9	10.1	91.1
#100	1.8	2.1	4.6	3.0	6.0	97.0
LBW	1.4	1.6	1.2	1.3	1.6	98.7

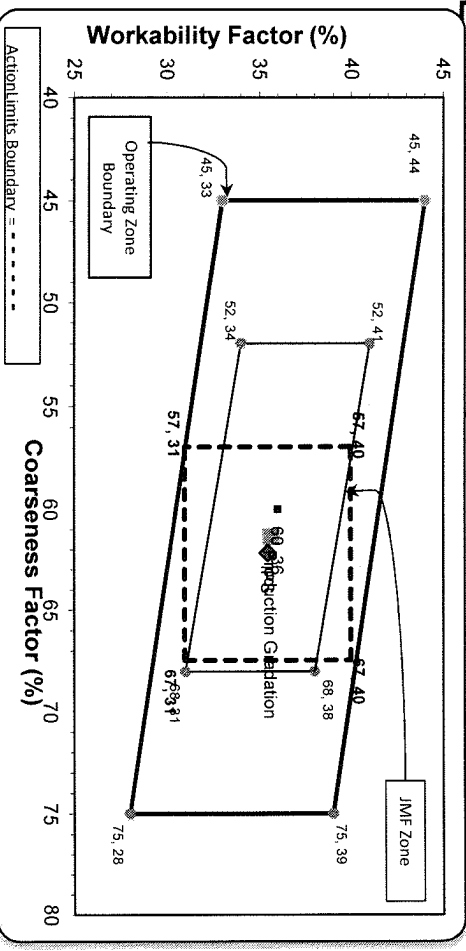
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max.
 nom. max. #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max.
 nom. max. #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when
 a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Initial Production Sample (IPS)

Coarseness Factor: **61** Workability Factor: **36**

Coarseness Factor: **62** Workability Factor: **35**



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"	94.0	6.0	6.0
1/2"	70.2	23.7	29.8
3/8"	59.9	10.4	40.1
#4	42.7	17.2	57.3
#8	35.5	7.2	64.5
#16	28.4	7.0	71.6
#30	19.2	9.2	80.8
#50	8.9	10.3	91.1
#100	3.1	5.9	96.9
LBW	1.4	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: 05/23/2021 - 05/29/2021

Report Date 05/29/2021

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)	83.4	%	65-95
	#16 (1.18mm)	67.0	%	35-75
	#30 (.6mm)	43.8	%	20-55
	#50 (.3mm)	19.0	%	10-30
	#100 (.15mm)	4.6	%	0-10
	#200 (75µm)	1.5	%	
	FM	2.85		2.6-3
	Wash Loss (#200/75um)	1.2	%	0-3
	Total Moisture	2.8	%	

Plant 958-JMT
 Product 1067-26A Mod LS
 Period: 05/23/2021 - 05/29/2021

Name/Title Doug Storey / QC Technician
 Report Date 05/29/2021

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)	98.7	%	95-100
	3/8" (9.5mm)	91.5	%	60-95
	#4 (4.75mm)	27.2	%	5-30
	#8 (2.36mm)	8.7	%	0-12
	#16 (1.18mm)	4.1	%	
	#30 (.6mm)	3.2	%	
	#50 (.3mm)	2.6	%	
	#100 (.15mm)	2.1	%	
	#200 (75µm)	1.8	%	
	Wash Loss (#200/75um)	1.6	%	0-3
	Total Moisture	1.5	%	

Plant 958-JMT

Product 1054-6AA LS PI

Name/Title Doug Storey / QC Technician

Period: 05/23/2021 - 05/29/2021

Report Date 05/29/2021

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	96.9	%	95-100
	3/4" (19mm)	77.7	%	
	1/2" (12.5mm)	41.1	%	30-60
	3/8" (9.5mm)	21.5	%	
	#4 (4.75mm)	3.1	%	0-8
	#8 (2.36mm)	2.2	%	
	#16 (1.18mm)	2.1	%	
	#30 (.6mm)	2.1	%	
	#50 (.3mm)	2.0	%	
	#100 (.15mm)	1.8	%	
	#200 (75µm)	1.6	%	
	Wash Loss (#200/75um)	1.4	%	0-2
	Total Moisture	1.0	%	