

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-32**

Sample Date: **8/29/22**

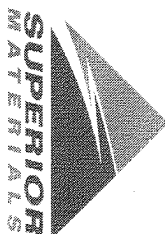
Dates Test Represents: **8/30/2022**

through **9/5/2022**

Concrete Grade: **DM, 4500HP**

Contractor: _____

MDOT No.: _____



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

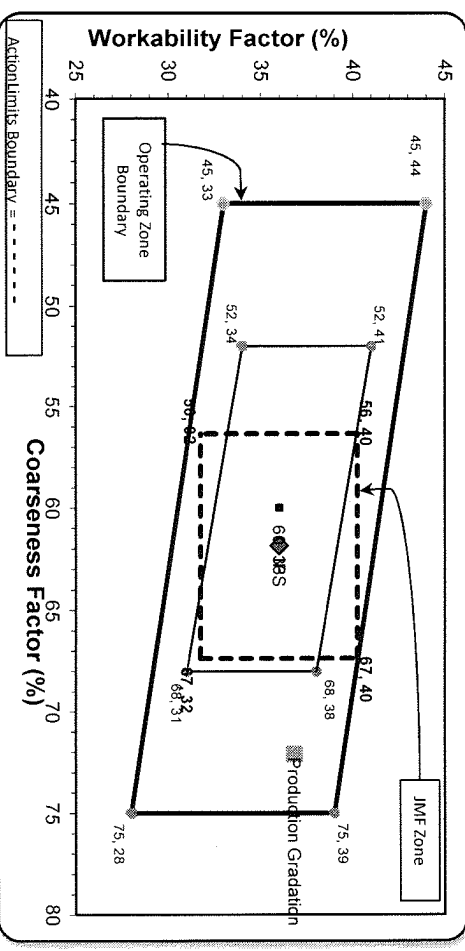
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1555	9.51	2.62	53.5
26A	71-47	Presque Isle	200	1.22	2.62	6.9
2NS	95-013	Smeller Bay	1150	6.95	2.65	39.6
		Total Wt	2905	17.69		100.0

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"	99.2	100.0	100.0	99.6	0.4	0.4
3/4"	82.3	100.0	100.0	90.5	9.5	9.5
1/2"	32.1	92.5	100.0	63.1	36.9	36.9
3/8"	14.2	79.3	100.0	52.6	47.4	47.4
#4	2.9	18.3	95.9	40.8	59.2	59.2
#8	2.4	4.8	82.6	34.3	65.7	65.7
#16	2.1	2.6	67.5	28.0	72.0	72.0
#30	2.0	2.1	47.6	20.1	79.9	79.9
#50	1.8	2.0	23.7	10.5	89.5	89.5
#100	1.7	1.9	7.5	4.0	96.0	96.0
LBW	1.4	1.7	1.3	1.4	98.6	98.6

*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: **72** Workability Factor: **34** Adjusted WF: **36.8**



Sieve	Initial Production Sample (IPS)	Coarseness Factor:	Workability Factor:	Adjusted WF
2"	100.0	62	36	36.8
1.5"	100.0	0.0	0.0	0.0
1"	100.0	0.0	0.0	0.0
3/4"	95.0	5.0	5.0	27.7
1/2"	72.3	22.8	11.8	39.6
3/8"	60.4	17.8	57.4	64.0
#4	42.6	6.6	70.5	20.3
#8	36.0	6.5	79.7	9.5
#16	29.5	6.5	90.5	3.4
#30	20.3	9.2	96.6	2.1
#50	9.5	10.8	98.7	
#100	3.4	6.1		
LBW	1.3	2.1		

PREPARED BY:
 SM, LLC Technical Service

Approved By: _____

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Doug Storey / QC Technician

Period: 08/28/2022 - 09/03/2022

Report Date 09/02/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	95.9	%	95-100
	#8 (2.36mm)	82.6	%	65-95
	#16 (1.18mm)	67.5	%	35-75
	#30 (.6mm)	47.6	%	20-55
	#50 (.3mm)	23.7	%	10-30
	#100 (.15mm)	7.5	%	0-10
	#200 (75µm)	1.9	%	
	FM	2.75		2.6-3
	Wash Loss (#200/75um)	1.3	%	0-3
	Total Moisture	3.9	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 08/28/2022 - 09/03/2022

Report Date 09/02/2022

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)	92.5	%	95-100
	3/8" (9.5mm)	79.3	%	60-95
	#4 (4.75mm)	18.3	%	5-30
	#8 (2.36mm)	4.8	%	0-12
	#16 (1.18mm)	2.6	%	
	#30 (.6mm)	2.1	%	
	#50 (.3mm)	2.0	%	
	#100 (.15mm)	1.9	%	
	#200 (75µm)	1.7	%	
	Wash Loss (#200/75um)	1.7	%	0-3
	Total Moisture	2.8	%	

Plant 958-JMT

Product 1054-6AA LS PI

Name/Title Doug Storey / QC Technician

Period: 08/28/2022 - 09/03/2022

Report Date 09/02/2022

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	99.2	%	95-100
	3/4" (19mm)	82.3	%	
	1/2" (12.5mm)	32.1	%	30-60
	3/8" (9.5mm)	14.2	%	
	#4 (4.75mm)	2.9	%	0-8
	#8 (2.36mm)	2.4	%	
	#16 (1.18mm)	2.1	%	
	#30 (.6mm)	2.0	%	
	#50 (.3mm)	1.8	%	
	#100 (.15mm)	1.7	%	
	#200 (75µm)	1.5	%	
	Wash Loss (#200/75um)	1.4	%	0-2
	Total Moisture	2.1	%	