

Aggregate Optimization Chart

Production Gradation Report

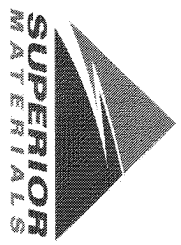
PLANT #: P-32

Sample Date: 3/7/22

Dates Test Represents: 3/8/2022 through 3/14/2022

Concrete Grade: S2M, 3500HP

Contractor: _____
MDOT No.: _____



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

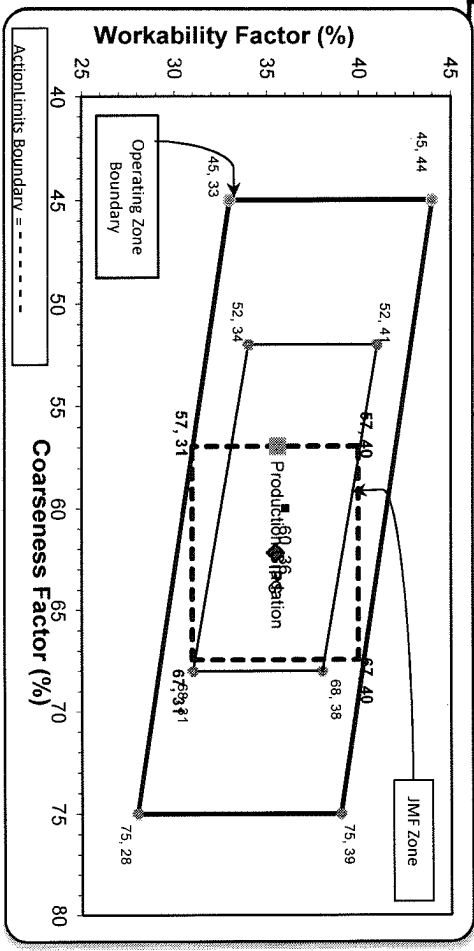
Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1520	9.30	2.62	49.8
26A	71-47	Presque Isle	300	1.83	2.62	9.8
2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3
Total Wt:			3050	18.57		100.0

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"	98.8	100.0	100.0	99.4	0.6	0.6
3/4"	87.6	100.0	100.0	93.8	5.6	6.2
1/2"	48.6	96.9	100.0	74.1	19.7	25.9
3/8"	29.5	84.3	100.0	63.3	10.8	36.7
#4	5.9	23.3	96.0	43.9	19.4	56.1
#8	2.3	8.2	83.4	35.6	8.4	64.4
#16	1.8	3.8	68.0	28.7	6.9	71.3
#30	1.6	2.6	48.3	20.5	8.2	79.5
#50	1.5	2.3	24.0	10.7	9.9	89.3
#100	1.5	2.1	7.4	3.9	6.7	96.1
LBW	1.2	1.8	1.6	1.4	2.5	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: 57 **Workability Factor:** 36



Initial Production Sample (IPS)

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

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

PREPARED BY:
 SM, LLC Technical Service

Approved By: _____

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Casey Smith / QC Manager

Period: 03/04/2022 - 03/11/2022

Report Date 03/11/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.0	%	95-100
	#8 (2.36mm)	83.4	%	65-95
	#16 (1.18mm)	68.0	%	35-75
	#30 (.6mm)	48.3	%	20-55
	#50 (.3mm)	24.0	%	10-30
	#100 (.15mm)	7.4	%	0-10
	#200 (75µm)	1.9	%	
	FM	2.73		2.6-3
	Wash Loss (#200/75um)	1.6	%	0-3
	Total Moisture	4.1	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 03/06/2022 - 03/12/2022

Report Date 03/11/2022

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)	96.9	%	95-100
	3/8" (9.5mm)	84.3	%	60-95
	#4 (4.75mm)	23.3	%	5-30
	#8 (2.36mm)	8.2	%	0-12
	#16 (1.18mm)	3.8	%	
	#30 (.6mm)	2.6	%	
	#50 (.3mm)	2.3	%	
	#100 (.15mm)	2.1	%	
	#200 (75µm)	2.0	%	
	Wash Loss (#200/75um)	1.8	%	0-3
	Total Moisture	4.8	%	

Edw. C. Levy Co.

8911 W. Jefferson
Detroit, 48209
(313) 429-2429

Plant 958-JMT

Product 1054-6AA LS PI

Name/Title Casey Smith / QC Manager

Period: 03/04/2022 - 03/11/2022

Report Date 03/11/2022

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	98.8	%	95-100
	3/4" (19mm)	87.6	%	
	1/2" (12.5mm)	48.6	%	30-60
	3/8" (9.5mm)	29.5	%	
	#4 (4.75mm)	5.9	%	0-8
	#8 (2.36mm)	2.3	%	
	#16 (1.18mm)	1.8	%	
	#30 (.6mm)	1.6	%	
	#50 (.3mm)	1.5	%	
	#100 (.15mm)	1.5	%	
	#200 (75µm)	1.3	%	
	Wash Loss (#200/75um)	1.2	%	0-2
	Total Moisture	4.2	%	