

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-32**

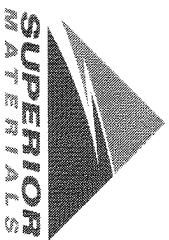
Sample Date: **3/14/22**

Dates Test Represents: **3/15/2022** through **3/21/2022**

Concrete Grade: **DM, 4500HP**

Contractor: _____

MDOT No.: _____



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

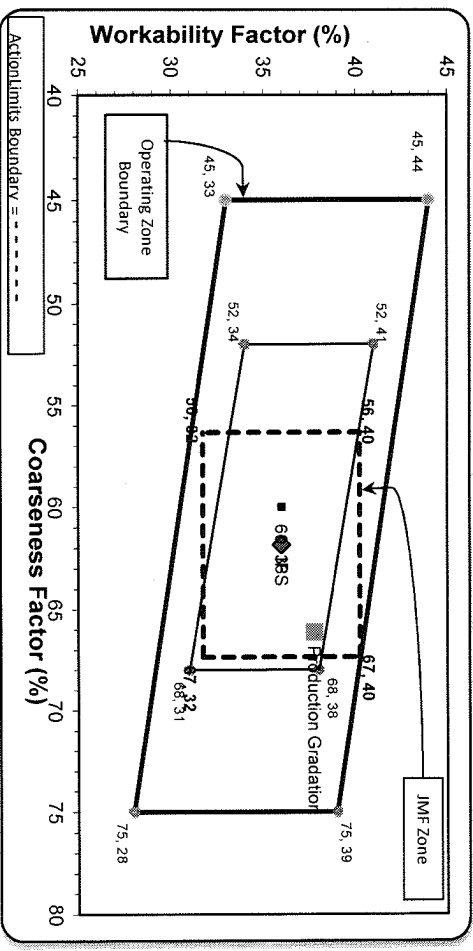
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1505	9.21	2.62	51.8
26A	71-47	Presque Isle	250	1.53	2.62	8.6
2NS	95-013	Smelter Bay	1150	6.95	2.65	39.6
		Total Wt	2905	17.69		100.0

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"	98.2	100.0	100.0	99.1	0.9	0.9
3/4"	75.0	100.0	100.0	87.0	13.0	13.0
1/2"	34.9	97.4	100.0	66.0	34.0	34.0
3/8"	19.6	86.4	100.0	57.2	42.8	42.8
#4	4.2	26.1	96.1	42.5	57.5	57.5
#8	2.8	9.1	83.4	35.2	64.8	64.8
#16	2.4	4.2	68.2	28.6	71.4	71.4
#30	2.3	2.9	48.9	20.8	79.2	79.2
#50	2.2	2.5	24.7	11.1	88.9	88.9
#100	2.1	2.3	7.8	4.4	95.6	95.6
LBW	1.8	1.9	1.9	1.8	98.2	98.2

*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: **66** Workability Factor: **35** Adjusted WF: **37.7**



Sieve	Initial Production Sample (IPS)	Coarseness Factor:	Workability Factor:	% Retained	Cumulative % Retained
2"	0.0	62	36	0.0	0.0
1.5"	0.0			0.0	0.0
1"	0.0			0.0	0.0
3/4"	5.0			5.0	5.0
1/2"	22.8			22.8	27.7
3/8"	11.8			11.8	39.6
#4	17.8			17.8	57.4
#8	6.6			6.6	64.0
#16	6.5			6.5	70.5
#30	9.2			9.2	79.7
#50	10.8			10.8	90.5
#100	6.1			6.1	96.6
LBW	2.1			2.1	98.7

PREPARED BY:
SM, LLC Technical Service

Approved By: _____

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Casey Smith / QC Manager

Period: 03/11/2022 - 03/18/2022

Report Date 03/18/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.1	%	95-100
	#8 (2.36mm)	83.4	%	65-95
	#16 (1.18mm)	68.2	%	35-75
	#30 (.6mm)	48.9	%	20-55
	#50 (.3mm)	24.7	%	10-30
	#100 (.15mm)	7.8	%	0-10
	#200 (75µm)	2.3	%	
	FM	2.71		2.6-3
	Wash Loss (#200/75um)	1.9	%	0-3
	Total Moisture	4.0	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 03/13/2022 - 03/19/2022

Report Date 03/18/2022

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)	97.4	%	95-100
	3/8" (9.5mm)	86.4	%	60-95
	#4 (4.75mm)	26.1	%	5-30
	#8 (2.36mm)	9.1	%	0-12
	#16 (1.18mm)	4.2	%	
	#30 (.6mm)	2.9	%	
	#50 (.3mm)	2.5	%	
	#100 (.15mm)	2.3	%	
	#200 (75µm)	2.1	%	
	Wash Loss (#200/75µm)	1.9	%	0-3
	Total Moisture	3.6	%	

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: 03/11/2022 - 03/18/2022

Report Date 03/18/2022

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	98.2	%	95-100
	3/4" (19mm)	75.0	%	
	1/2" (12.5mm)	34.9	%	30-60
	3/8" (9.5mm)	19.6	%	
	#4 (4.75mm)	4.2	%	0-8
	#8 (2.36mm)	2.8	%	
	#16 (1.18mm)	2.4	%	
	#30 (.6mm)	2.3	%	
	#50 (.3mm)	2.2	%	
	#100 (.15mm)	2.1	%	
	#200 (75µm)	2.0	%	
	Wash Loss (#200/75µm)	1.8	%	0-2
	Total Moisture	2.4	%	