

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-32**

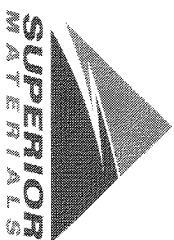
Sample Date: **4/18/22**

Dates Test Represents: **4/19/2022** through **4/25/2022**

Concrete Grade: **S2M, 3500HP**

Contractor: _____

MDOT No.: _____



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

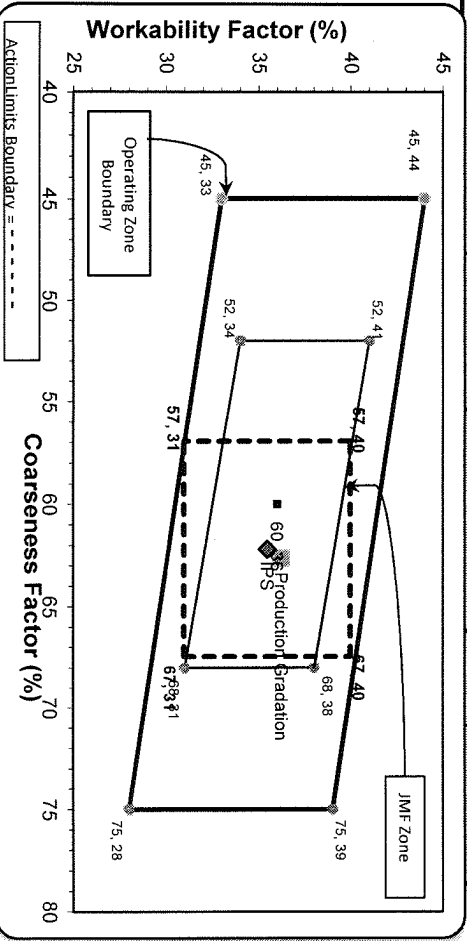
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1520	9.30	2.62	49.8
26A	71-47	Presque Isle	300	1.83	2.62	9.8
NNS	95-013	Smelter Bay	1230	7.44	2.65	40.3
			Total Wt	3050		100.0

Sieve	6AA	26A	NNS	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"	99.0	100.0	100.0	99.5	0.5	0.5
3/4"	89.7	100.0	100.0	94.9	4.6	5.1
1/2"	43.2	93.8	100.0	71.1	23.8	28.9
3/8"	23.3	82.6	100.0	60.1	11.0	39.9
#4	5.4	28.6	96.5	44.4	15.6	55.6
#8	2.7	10.3	84.0	36.2	8.2	63.8
#16	2.2	5.4	68.9	29.4	6.8	70.6
#30	2.0	4.2	49.2	21.3	8.2	78.7
#50	1.9	3.8	23.5	10.8	10.5	89.2
#100	1.8	3.5	6.7	3.9	6.9	96.1
LBW	1.4	3.0	1.7	1.7	2.3	98.3

*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. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **63** Workability Factor: **36**



Initial Production Sample (PPS)

Sieve	% 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: 04/17/2022 - 04/23/2022

Report Date 04/23/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.5	%	95-100
	#8 (2.36mm)	84.0	%	65-95
	#16 (1.18mm)	68.9	%	35-75
	#30 (.6mm)	49.2	%	20-55
	#50 (.3mm)	23.5	%	10-30
	#100 (.15mm)	6.7	%	0-10
	#200 (75µm)	2.0	%	
	FM	2.71		2.6-3
	Wash Loss (#200/75um)	1.7	%	0-3
	Total Moisture	4.8	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 04/17/2022 - 04/23/2022

Report Date 04/23/2022

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)	93.8	%	95-100
	3/8" (9.5mm)	82.6	%	60-95
	#4 (4.75mm)	28.6	%	5-30
	#8 (2.36mm)	10.3	%	0-12
	#16 (1.18mm)	5.4	%	
	#30 (.6mm)	4.2	%	
	#50 (.3mm)	3.8	%	
	#100 (.15mm)	3.5	%	
	#200 (75µm)	3.2	%	
	Wash Loss (#200/75um)	3.0	%	0-3
	Total Moisture	3.5	%	

Edw. C. Levy Co.

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

Plant 958-JMT

Product 1054-6AA LS PI

Name/Title Doug Storey / QC Technician

Period: 04/17/2022 - 04/23/2022

Report Date 04/23/2022

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	99.0	%	95-100
	3/4" (19mm)	89.7	%	
	1/2" (12.5mm)	43.2	%	30-60
	3/8" (9.5mm)	23.3	%	
	#4 (4.75mm)	5.4	%	0-8
	#8 (2.36mm)	2.7	%	
	#16 (1.18mm)	2.2	%	
	#30 (.6mm)	2.0	%	
	#50 (.3mm)	1.9	%	
	#100 (.15mm)	1.8	%	
	#200 (75µm)	1.5	%	
	Wash Loss (#200/75um)	1.4	%	0-2
	Total Moisture	3.2	%	