

Aggregate Optimization Chart

PLANT #: **12**

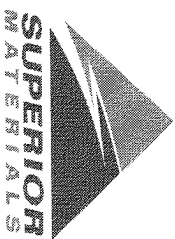
Sample Date: 6/19/23

Dates Test Represents: 6/20/2023 through 6/26/2023

Concrete Grade: **S2M, 3500HP**

Contractor: _____

MDOT No.: _____



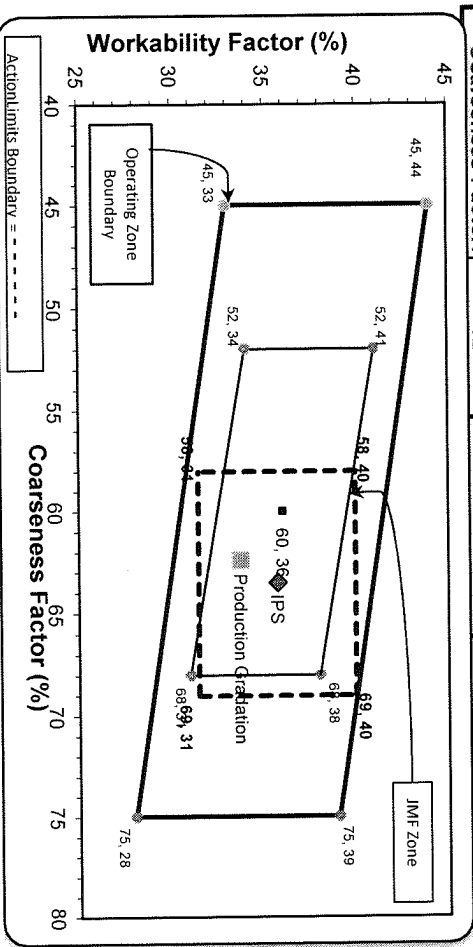
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

Agg. Class	Pit #	Source	Weight (ssu)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1550	9.48	2.62	50.8
26A	71-47	Presque Isle	270	1.65	2.62	8.9
2NS	63-115	Ray Rd	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"	98.3	100.0	100.0	99.1	0.9	0.9
3/4"	82.8	100.0	100.0	91.3	7.9	8.7
1/2"	38.4	92.0	100.0	68.0	23.3	32.0
3/8"	21.7	82.3	100.0	58.6	9.3	41.4
#4	4.5	14.8	96.5	42.5	16.1	57.5
#8	2.7	3.7	79.4	33.7	8.8	66.3
#16	2.4	2.0	64.5	27.4	6.3	72.6
#30	2.3	1.7	49.0	21.1	6.3	78.9
#50	2.2	1.5	24.4	11.1	10.0	88.9
#100	2.1	1.4	4.7	3.1	8.0	96.9
LBW	1.6	1.2	0.5	1.1	2.0	98.9

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **62** Workability Factor: **34**



Initial Production Sample (IPS)

Coarseness Factor:	Workability Factor:	% Retained	Cumulative % Retained
64	36	0.0	0.0
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.2	0.8	0.8
3/4"	90.9	8.3	9.1
1/2"	71.3	19.6	28.7
3/8"	59.2	12.1	40.8
#4	41.5	17.7	58.5
#8	35.7	5.8	64.3
#16	27.9	7.9	72.1
#30	18.3	9.5	81.7
#50	7.3	11.0	92.7
#100	2.0	5.3	98.0
LBW	0.9	1.1	99.1

*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.

PREPARED BY:
SM, LLC Technical Service

Approved By: _____



Plant S12-Onsite Southfield

Product 1051-6AA LS

Name/Title Doug Storey / QC Technician

Period: 06/18/2023 - 06/24/2023

Report Date 06/23/2023

Procedure	Sieve/Test	Result	Unit	6AA LS
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	98.3	%	95-100
	3/4" (19mm)	82.8	%	
	1/2" (12.5mm)	38.4	%	30-60
	3/8" (9.5mm)	21.7	%	
	#4 (4.75mm)	4.5	%	0-8
	#8 (2.36mm)	2.7	%	
	#16 (1.18mm)	2.4	%	
	#30 (.6mm)	2.3	%	
	#50 (.3mm)	2.2	%	
	#100 (.15mm)	2.1	%	
	#200 (75µm)	1.84	%	
	Wash Loss (#200/75um)	1.6	%	0-2
	Total Moisture	2.97	%	



Plant S12-Onsite Southfield

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 06/18/2023 - 06/24/2023

Report Date 06/23/2023

Procedure	Sieve/Test	Result	Unit	26A 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)	92.0	%	95-100
	3/8" (9.5mm)	82.3	%	60-95
	#4 (4.75mm)	14.8	%	5-30
	#8 (2.36mm)	3.7	%	0-12
	#16 (1.18mm)	2.0	%	
	#30 (.6mm)	1.7	%	
	#50 (.3mm)	1.5	%	
	#100 (.15mm)	1.4	%	
	#200 (75µm)	1.2	%	
	Wash Loss (#200/75µm)	1.2	%	0-3
	Total Moisture	1.87	%	



Plant S12-Onsite Southfield

Product 1022-2NS GR

Period: 06/18/2023 - 06/24/2023

Name/Title Doug Storey / QC Technician

Report Date 06/23/2023

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)	79.4	%	65-95
	#16 (1.18mm)	64.5	%	35-75
	#30 (.6mm)	49.0	%	20-55
	#50 (.3mm)	24.4	%	10-30
	#100 (.15mm)	4.7	%	0-10
	#200 (75µm)	0.9	%	
	FM	2.82		2.6-3
	Wash Loss (#200/75um)	0.5	%	0-3
	Total Moisture	2.77	%	