

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-103

Sample Date: 11/21/22

Dates Test Represents: 11/22/2022 through 11/28/2022

Concrete Grade: S2M, 3500HP

Contractor:

MDOT No.:

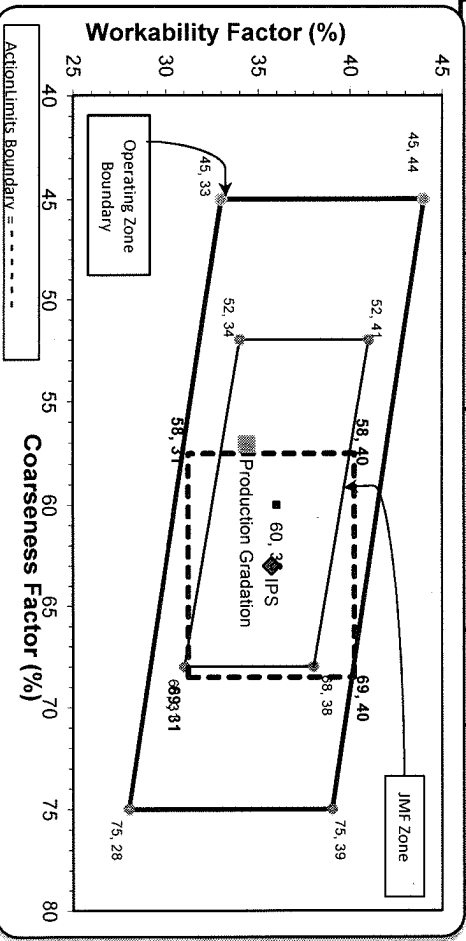
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %
GAA	58-003	Stoneco	1550	9.23	2.69	50.0
26A	58-003	Stoneco	350	2.09	2.69	11.3
ZNS	81-019	Pleasant Lake	1200	7.26	2.65	38.7
Total Wt:			3100	18.58		100.0

<----- Verify this number is 100%

Sieve	6AA	26A	ZNS	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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	91.8	100.0	100.0	95.9	4.1	4.1
1/2"	54.3	99.5	100.0	77.1	18.8	22.9
3/8"	27.5	89.4	100.0	62.6	14.5	37.4
#4	5.0	15.1	98.2	42.2	20.3	57.8
#8	2.2	5.1	84.5	34.4	7.8	65.6
#16	1.7	3.2	68.3	27.7	6.7	72.4
#30	1.5	2.7	51.1	20.8	6.8	79.2
#50	1.4	2.4	26.8	11.3	9.5	88.7
#100	1.3	2.3	8.3	4.1	7.2	95.9
LBW	1.2	2.2	2.0	1.6	2.5	98.4

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 57 **Workability Factor:** 34



Initial Production Sample (IPS)

Sieve	Coarseness Factor:	Workability Factor:	% Retained	Cumulative % Retained
2"	63	36	0.0	0.0
1.5"			0.0	0.0
1"			0.8	0.8
3/4"			8.3	9.1
1/2"			19.6	28.7
3/8"			11.8	40.5
#4			15.7	56.2
#8			8.1	64.3
#16			8.7	73.0
#30			8.4	81.4
#50			11.8	93.2
#100			5.4	98.6
LBW			0.8	99.4

*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.



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

PREPARED BY:
 SM, LLC Technical Service

Approved BY:



Plant S103-Superior Brighton
Product 1022-2NS GR
Period: 11/20/2022 - 11/26/2022

Name/Title Doug Storey / QC Technician
Report Date 11/23/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	98.2	%	95-100
	#8 (2.36mm)	84.5	%	65-95
	#16 (1.18mm)	68.3	%	35-75
	#30 (.6mm)	51.1	%	20-55
	#50 (.3mm)	26.8	%	10-30
	#100 (.15mm)	8.3	%	0-10
	#200 (75µm)	2.3	%	
	FM	2.63		2.6-3
	Wash Loss (#200/75µm)	2.0	%	0-3
	Total Moisture	3.90	%	



Plant S103-Superior Brighton
 Product 1067-26A Mod LS
 Period: 11/20/2022 - 11/26/2022

Name/Title Doug Storey / QC Technician
 Report Date 11/23/2022

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)	99.5	%	95-100
	3/8" (9.5mm)	89.4	%	60-95
	#4 (4.75mm)	15.1	%	5-30
	#8 (2.36mm)	5.1	%	0-12
	#16 (1.18mm)	3.2	%	
	#30 (.6mm)	2.7	%	
	#50 (.3mm)	2.4	%	
	#100 (.15mm)	2.3	%	
	#200 (75µm)	2.3	%	
	Wash Loss (#200/75um)	2.2	%	0-3
	Total Moisture	2.60	%	



Plant S103-Superior Brighton

Product 1051-6AA LS

Name/Title Doug Storey / QC Technician

Period: 11/20/2022 - 11/26/2022

Report Date 11/23/2022

Procedure	Sieve/Test	Result	Unit	6AA LS
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	100.0	%	95-100
	3/4" (19mm)	91.8	%	
	1/2" (12.5mm)	54.3	%	30-60
	3/8" (9.5mm)	27.5	%	
	#4 (4.75mm)	5.0	%	0-8
	#8 (2.36mm)	2.2	%	
	#16 (1.18mm)	1.7	%	
	#30 (.6mm)	1.5	%	
	#50 (.3mm)	1.4	%	
	#100 (.15mm)	1.3	%	
	#200 (75µm)	1.26	%	
	Wash Loss (#200/75um)	1.2	%	0-2
	Total Moisture	3.07	%	