Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-102

Sample Date: 3/20/23

Concrete Grade: **S2M, 3500HP**

Contractor: _____

Dates Test Represents: 3/21/2023 through 3/27/2023

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1570	9.35	2.69	50.6
26A	58-003	Stoneco	330	1.97	2.69	10.6
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7
		Total Wt	**3100**	**18.58**		100.0

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

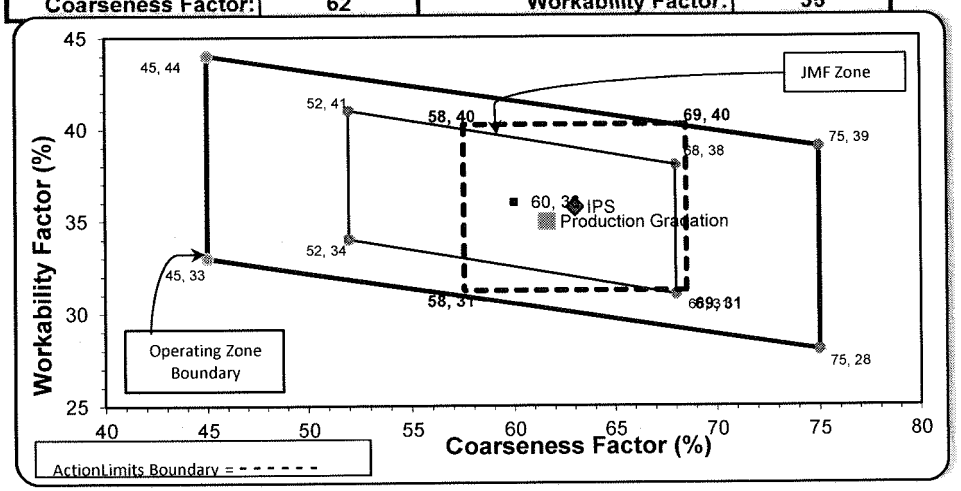
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	84.9	100.0	100.0	92.4	7.6	7.6
1/2"	45.7	99.5	100.0	72.4	19.9	27.6
3/8"	23.3	88.4	100.0	59.9	12.5	40.1
#4	5.9	25.1	96.7	43.1	16.8	56.9
#8	3.2	9.0	83.6	34.9	8.2	65.1
#16	2.6	4.9	67.9	28.1	6.8	71.9
#30	2.3	3.8	50.5	21.1	7.0	78.9
#50	2.2	3.4	25.2	11.2	9.9	88.8
#100	2.0	3.2	6.8	4.0	7.2	96.0
LBW	1.8	3.0	1.6	1.9	2.1	98.1

*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.

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

Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

Coarseness Factor:	62	Workability Factor:	35



Intial Production Sample (IPS)

Coarseness Factor:	63
Workability Factor:	36

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"	59.5	11.8	40.5
#4	43.8	15.7	56.2
#8	35.7	8.1	64.3
#16	27.0	8.7	73.0
#30	18.6	8.4	81.4
#50	6.8	11.8	93.2
#100	1.4	5.4	98.6
LBW	0.6	0.8	99.4

PREPARED BY:
SM, LLC Technical Service

Approved By:

Plant S102-Superior Novi

Product 1051-6AA LS

Period: 03/19/2023 - 03/25/2023

Name/Title Doug Storey / QC Technician

Report Date 03/24/2023

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)	84.9	%	
	1/2" (12.5mm)	45.7	%	30-60
	3/8" (9.5mm)	23.3	%	
	#4 (4.75mm)	5.9	%	0-8
	#8 (2.36mm)	3.2	%	
	#16 (1.18mm)	2.6	%	
	#30 (.6mm)	2.3	%	
	#50 (.3mm)	2.2	%	
	#100 (.15mm)	2.0	%	
	#200 (75µm)	1.91	%	
	Wash Loss (#200/75um)	1.8	%	0-2
	Total Moisture	3.43	%	

SUPERIOR MATERIALS

Plant S102-Superior Novi

Product 1067-26A Mod LS

Period: 03/19/2023 - 03/25/2023

Name/Title Doug Storey / QC Technician

Report Date 03/24/2023

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)	88.4	%	60-95
	#4 (4.75mm)	25.1	%	5-30
	#8 (2.36mm)	9.0	%	0-12
	#16 (1.18mm)	4.9	%	
	#30 (.6mm)	3.8	%	
	#50 (.3mm)	3.4	%	
	#100 (.15mm)	3.2	%	
	#200 (75µm)	3.1	%	
	Wash Loss (#200/75um)	3.0	%	0-3
	Total Moisture	4.36	%	

Plant S102-Superior Novi

Product 1022-2NS GR

Period: 03/19/2023 - 03/25/2023

Name/Title Doug Storey / QC Technician

Report Date 03/24/2023

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.7	%	95-100
	#8 (2.36mm)	83.6	%	65-95
	#16 (1.18mm)	67.9	%	35-75
	#30 (.6mm)	50.5	%	20-55
	#50 (.3mm)	25.2	%	10-30
	#100 (.15mm)	6.8	%	0-10
	#200 (75µm)	1.8	%	
	FM	2.69		2.6-3
	Wash Loss (#200/75um)	1.6	%	0-3
	Total Moisture	2.92	%	