

Aggregate Optimization Chart

PLANT #: p11

Sample Date: 12/23/24

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 12/24/2024 through 12/30/2024

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1620	9.91	2.62	53.1
26A	71-47	Presque Isle	200	1.22	2.62	6.6
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3
Total Wt			3050	18.57		100.0

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



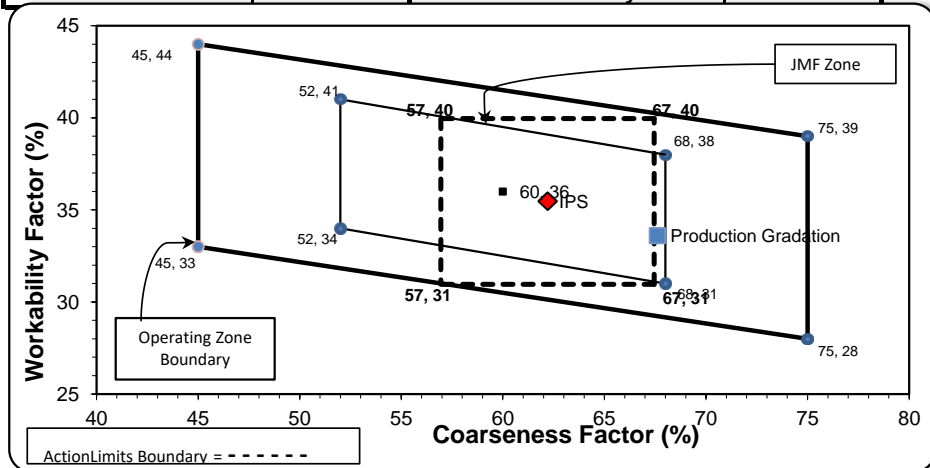
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	96.5	100.0	100.0	98.1	1.9	1.9
3/4"	77.3	100.0	100.0	87.9	10.2	12.1
1/2"	34.2	96.9	100.0	64.8	23.1	35.2
3/8"	17.5	83.8	100.0	55.1	9.7	44.9
#4	3.0	17.8	97.1	41.9	13.2	58.1
#8	1.9	5.1	80.0	33.6	8.3	66.4
#16	1.7	3.1	63.0	26.5	7.1	73.5
#30	1.7	2.8	46.9	20.0	6.5	80.0
#50	1.6	2.6	25.8	11.4	8.6	88.6
#100	1.5	2.4	5.3	3.1	8.3	96.9
LBW	1.3	2.1	0.6	1.1	2.0	98.9

*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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 68 **Workability Factor:** 34



Initial Production Sample (IPS)

Coarseness Factor: 62
Workability Factor: 35

Sieve	Cumulative % 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:

Daily Summary Report

Date Thursday, December 19, 2024

Sample Id	-1989643612	-674920126	-674965163
Plant	S000 Superior Onsite	S000 Superior Onsite	S000 Superior Onsite
Product	1051 6AA LS	1067 26A Mod LS	1022 2NS GR
Specification		26A Mod LS Spec	2NS GR Spec
Sample Type	QA	QA	QA
Time	22:47	22:48	22:49
2" (50mm)	100.0	100.0	
1 1/2" (37.5mm)	100.0	100.0	
1" (25mm)	96.5	100.0	
3/4" (19mm)	77.3	100.0	
1/2" (12.5mm)	34.2	96.9	
3/8" (9.5mm)	17.5	83.8	100.0
#4 (4.75mm)	3.0	17.8	97.1
#8 (2.36mm)	1.9	5.1	80.0
#16 (1.18mm)	1.7	3.1	63.0
#30 (.6mm)	1.7	2.8	46.9
#50 (.3mm)	1.6	2.6	25.8
#100 (.15mm)	1.5	2.4	5.3
#200 (75µm)	1.41	2.2	0.8
Pan	0.00	0.0	0.0
FM			2.82
-#200 (75um)			0.8
Wash Loss (#200/75um)	1.3	2.1	0.6
Total Moisture	2.9	4.1	3.4

Aggregate Optimization Chart

PLANT #: **P-O2**

Sample Date: 12/23/24

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 12/24/2024 through 12/30/2024

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1620	9.91	2.62	53.1
26A	71-47	Presque Isle	200	1.22	2.62	6.6
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3
Total Wt			3050	18.57		100.0

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



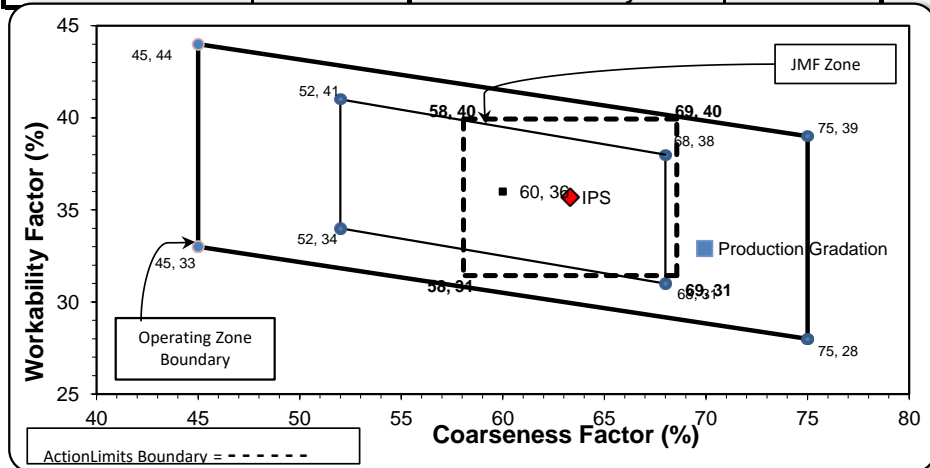
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	95.5	100.0	100.0	97.6	2.4	2.4
3/4"	69.3	100.0	100.0	83.7	13.9	16.3
1/2"	29.2	96.5	100.0	62.2	21.5	37.8
3/8"	13.6	84.2	100.0	53.1	9.1	46.9
#4	1.2	18.8	97.8	41.3	11.8	58.7
#8	0.9	4.9	79.6	32.9	8.4	67.1
#16	0.8	2.7	61.0	25.2	7.7	74.8
#30	0.8	2.3	44.9	18.7	6.5	81.3
#50	0.8	2.1	23.6	10.1	8.6	89.9
#100	0.7	2.0	5.4	2.7	7.4	97.3
LBW	0.5	1.8	1.0	0.8	1.9	99.2

*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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **70** **Workability Factor:** **33**



Initial 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"	100.0	0.0	0.0
3/4"	95.6	4.4	4.4
1/2"	73.1	22.6	26.9
3/8"	59.3	13.8	40.7
#4	42.8	16.5	57.2
#8	35.7	7.1	64.3
#16	28.9	6.8	71.1
#30	20.7	8.2	79.3
#50	9.9	10.8	90.1
#100	2.1	7.8	97.9
LBW	0.9	1.2	99.1

PREPARED BY:
 SM, LLC Technical Service

Approved By:



Daily Summary Report

Date Wednesday, December 18, 2024

Sample Id	-674894125	-1989651159	-1989616555	-1178924403	-110123624
Plant	S02	S02	S02	S02	S02
Product	7919 COARSE AGG P1M LS	1054 6AA LS PI	7920 INTERMED AGG P1M LS	1067 26A Mod LS	1022 2NS GR
Specification	Coarse Agg P1M LS Target	6AA LS	Intermed Agg P1M LS Target	26A Mod LS Spec	2NS GR Spec
Sample Type	QA	QA	QA	QA	QA
Time	22:40	22:42	22:44	22:45	22:46
2" (50mm)	100.0	100.0	100.0	100.0	
1 1/2" (37.5mm)	93.2	100.0	100.0	100.0	
1" (25mm)	32.1	95.5	100.0	100.0	
3/4" (19mm)	6.1	69.3	98.0	100.0	
1/2" (12.5mm)	3.0	29.2	75.3	96.5	
3/8" (9.5mm)	1.7	13.6	50.1	84.2	100.0
#4 (4.75mm)	1.5	1.2	10.1	18.8	97.8
#8 (2.36mm)	1.4	0.9	3.9	4.9	79.6
#16 (1.18mm)	1.2	0.8	2.8	2.7	61.0
#30 (.6mm)	1.1	0.8	2.5	2.3	44.9
#50 (.3mm)	1.1	0.8	2.3	2.1	23.6
#100 (.15mm)	1.0	0.7	2.1	2.0	5.4
#200 (75µm)	0.9	0.61	1.9	1.9	1.1
Pan	0.0	0.00	0.0	0.0	0.0
FM					2.88
Wash Loss (#200/75um)	0.8	0.5	1.8	1.8	1.0
Total Moisture	1.07	1.97	3.11	3.16	2.72