Aggregate Optimization Chart

Production Gradation Report

PLANT #: p11

Contractor: _____

Sample Date: 10/7/24

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 10/8/2024 through 10/14/2024

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft^3	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1420	8.69	2.62	46.6
26A	71-47	Presque Isle	400	2.45	2.62	13.1
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3
		Total Wt	**3050**	**18.57**		100.0

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

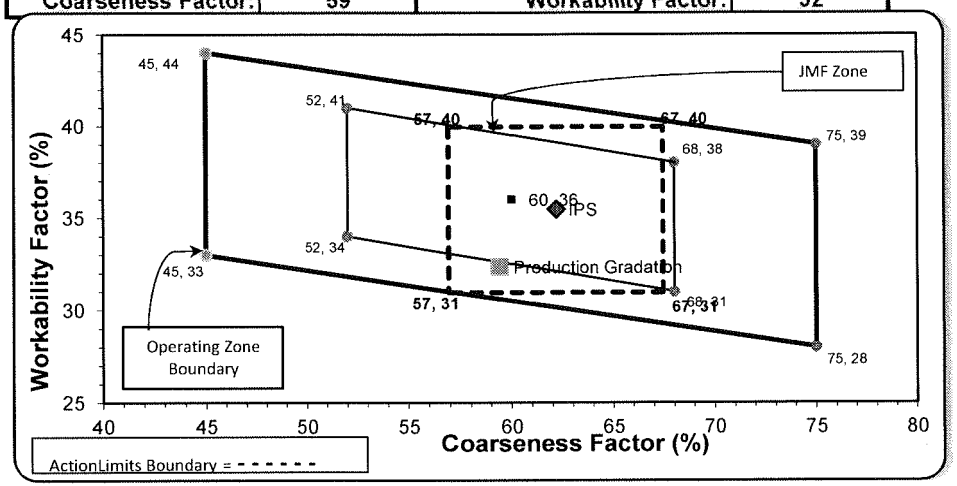
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	95.5	100.0	100.0	97.9	2.1	2.1
3/4"	75.6	100.0	100.0	88.6	9.3	11.4
1/2"	34.3	95.8	100.0	68.9	19.8	31.1
3/8"	18.6	82.6	100.0	59.8	9.0	40.2
#4	3.2	15.0	93.3	41.1	18.7	58.9
#8	2.0	4.4	76.5	32.4	8.7	67.6
#16	1.7	2.7	61.3	25.9	6.5	74.1
#30	1.6	2.4	47.3	20.1	5.7	79.9
#50	1.5	2.2	26.6	11.7	8.4	88.3
#100	1.5	2.1	7.4	4.0	7.8	96.0
LBW	1.3	1.9	0.7	1.1	2.8	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.

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

Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

Coarseness Factor:	59	Workability Factor:	32



Intial 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:

EDW. C. LEVY CO.
8800 Dix Avenue, Detroit, MI 48209
(313) 843-7200

Daily Summary Report

Date Thursday, October 10, 2024

Sample Id	-1989627531	-674949461	-674946992	-1018110270	-674986765
Plant	S000 Superior Onsite	S000 Superior Onsite	S000 Superior Onsite	S000 Superior Onsite	S000 Superior Onsite
Product	1067 26A Mod LS	1022 2NS GR	1051 6AA LS	7919 COARSE AGG P1M LS	7920 INTERMED AGG P1M LS
Specification	26A Mod LS Spec	2NS GR Spec		Coarse Agg P1M LS Target	Intermed Agg P1M LS Target
Sample Type	QA	QA	QA	QA	QA
Time	11:35	11:37	11:49	17:36	17:37
2" (50mm)	100.0		100.0	100.0	100.0
1 1/2" (37.5mm)	100.0		100.0	98.0	100.0
1" (25mm)	100.0		95.5	31.0	100.0
3/4" (19mm)	100.0		75.6	9.2	99.0
1/2" (12.5mm)	95.8		34.3	3.5	66.8
3/8" (9.5mm)	82.6	100.0	18.6	3.1	41.7
#4 (4.75mm)	15.0	93.3	3.2	2.5	9.4
#8 (2.36mm)	4.4	76.5	2.0	2.2	3.9
#16 (1.18mm)	2.7	61.3	1.7	2.1	2.8
#30 (.6mm)	2.4	47.3	1.6	2.0	2.6
#50 (.3mm)	2.2	26.6	1.5	1.9	2.4
#100 (.15mm)	2.1	7.4	1.5	1.8	2.3
#200 (75µm)	2.0	1.0	1.39	1.6	2.2
Pan	0.0	0.0	0.00	0.0	0.0
FM		2.88			
-#200 (75um)		1.0			
Wash Loss (#200/75um)	1.9	0.7	1.3	1.4	2.0
Total Moisture	1.1	5.0	2.4	0.1	1.5

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-103

Contractor: _____

Sample Date: 10/7/24

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 10/8/2024 through 10/14/2024

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1600	9.53	2.69	51.6
26A	58-003	Stoneco	300	1.79	2.69	9.7
2NS	63-114	Highland	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"	99.2	100.0	100.0	99.6	0.4	0.4
3/4"	73.7	100.0	100.0	86.4	13.2	13.6
1/2"	25.7	99.5	100.0	61.6	24.8	38.4
3/8"	10.9	91.4	100.0	53.2	8.4	46.8
#4	2.4	9.5	99.6	40.7	12.5	59.3
#8	1.2	2.3	86.0	34.1	6.6	65.9
#16	1.0	1.8	65.2	25.9	8.2	74.1
#30	0.9	1.6	43.9	17.6	8.3	82.4
#50	0.8	1.6	19.2	8.0	9.6	92.0
#100	0.8	1.4	4.7	2.4	5.6	97.6
LBW	0.6	1.3	0.6	0.7	1.7	99.3

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

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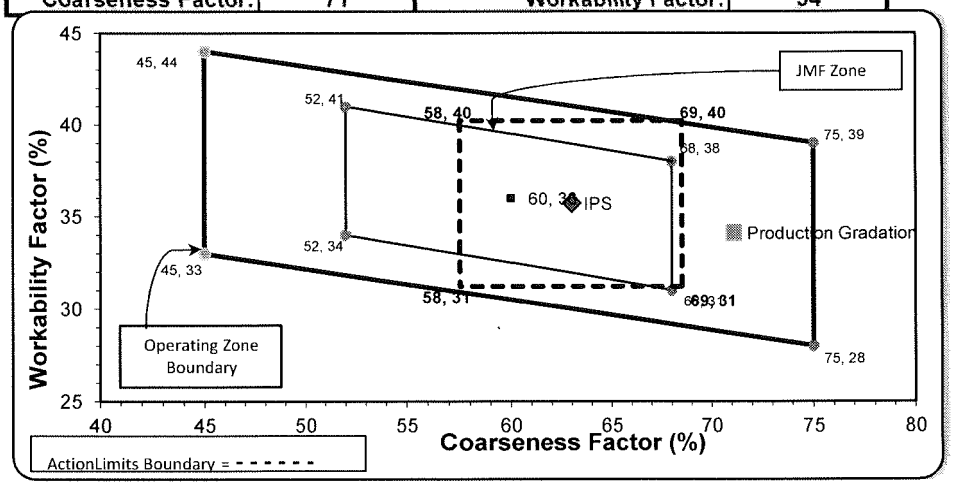
Farmington Hills, MI 48336

Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

Coarseness Factor:	71	Workability Factor:	34



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:

Daily Summary Report

Date	Tuesday, October 8, 2024		
Sample Id	-1989645004	-674961855	-674891314
Plant	S103 Superior Brighton	S103 Superior Brighton	S103 Superior Brighton
Product	1051 6AA LS	1067 26A Mod LS	1022 2NS GR
Specification	6AA LS	26A Mod LS Spec	2NS GR Spec
Sample Type	QA	QA	QA
Time	13:13	14:55	14:56
2" (50mm)	100.0	100.0	
1 1/2" (37.5mm)	100.0	100.0	
1" (25mm)	99.2	100.0	
3/4" (19mm)	73.7	100.0	
1/2" (12.5mm)	25.7	99.5	
3/8" (9.5mm)	10.9	91.4	100.0
#4 (4.75mm)	2.4	9.5	99.6
#8 (2.36mm)	1.2	2.3	86.0
#16 (1.18mm)	1.0	1.8	65.2
#30 (.6mm)	0.9	1.6	43.9
#50 (.3mm)	0.8	1.6	19.2
#100 (.15mm)	0.8	1.4	4.7
#200 (75µm)	0.69	1.4	0.9
Pan	0.00	0.0	0.0
FM			2.81
Wash Loss (#200/75um)	0.6	1.3	0.6
Total Moisture	3.02	1.61	3.17