

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P11**

Sample Date: **10/28/24**

Dates Test Represents: **10/29/2024** through **11/4/2024**

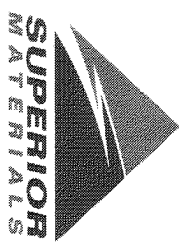
Concrete Grade: **P1M, 3500HP**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
CA	71-47	Presque Isle	870	5.32	2.62	28.3
IA	71-47	Presque Isle	1000	6.12	2.62	32.6
2NS	63-115	Ray Rd	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

Sieve	CA	IA	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"	45.3	100.0	100.0	84.5	15.5	15.5
3/4"	8.6	99.6	100.0	74.0	10.5	26.0
1/2"	2.5	79.3	100.0	65.6	8.3	34.4
3/8"	1.9	50.9	100.0	56.2	9.4	43.8
#4	1.7	9.1	94.8	40.5	15.7	59.5
#8	1.6	3.4	79.2	32.5	8.0	67.5
#16	1.6	2.5	65.1	26.7	5.8	73.3
#30	1.5	2.3	50.5	20.9	5.8	79.1
#50	1.5	2.2	27.8	12.0	8.9	88.0
#100	1.4	2.1	7.3	3.9	8.1	96.1
LBW	1.1	1.8	1.4	1.4	2.5	98.6

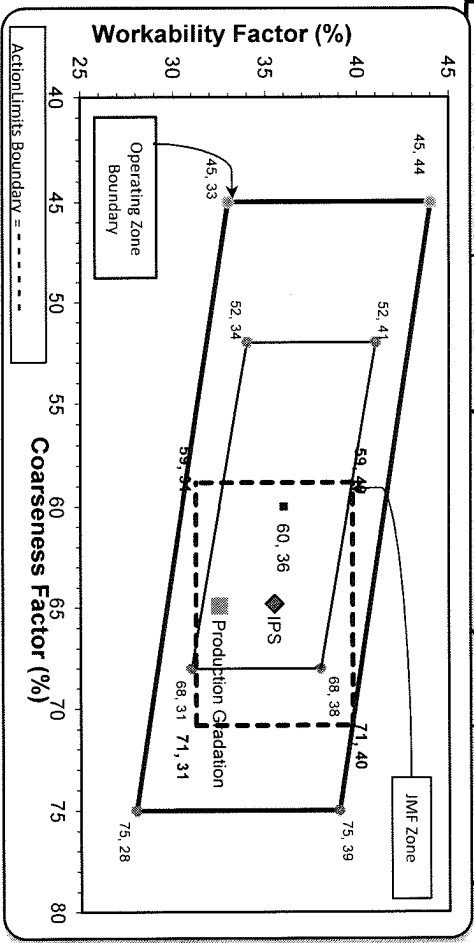


Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

*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.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **65** Workability Factor: **33**



Initial Production Sample (IPS)

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.0	0.6	0.6
1"	84.0	15.3	16.0
3/4"	73.5	10.5	26.5
1/2"	65.2	8.2	34.8
3/8"	58.2	7.1	41.8
#4	44.1	14.1	55.9
#8	35.5	8.6	64.5
#16	29.1	6.4	70.9
#30	21.9	7.3	78.1
#50	9.6	12.2	90.4
#100	2.6	7.1	97.4
LBW	1.0	1.6	99.0

PREPARED BY:
SM, LLC Technical Service

Approved By: _____



EDW. C. LEVY CO.
 8500 DE AVENUE, SUITE 200, DE WILMINGTON, DE 19826
 (302) 439-7200

Daily Summary Report

Date Tuesday, October 29, 2024

Sample Id	Date	Product	Specification	Sample Type	Time
-674953239	Onsite Jefferson	1022 ZNS GR	ZNS GR Spec	QA	09:42
-1989631595	Onsite Jefferson	7919 COARSE AGG P1M LS	Coarse Agg P1M LS Target	QA	10:34
-674926902	Onsite Jefferson	1051 6AA LS		QA	11:44
-674968915	Onsite Jefferson	7920 INTERMED AGG P1M LS	Intermed Agg P1M LS Target	QA	13:54
-674910439	Onsite Jefferson	1067 26A Mod LS	26A Mod LS Spec	QA	13:56
		2" (50mm)			100.0
		1 1/2" (37.5mm)			100.0
		1" (25mm)			45.3
		3/4" (19mm)			8.6
		1/2" (12.5mm)			2.5
		3/8" (9.5mm)			1.9
		#4 (4.75mm)			94.8
		#8 (2.36mm)			79.2
		#16 (1.18mm)			65.1
		#30 (.6mm)			50.5
		#50 (.3mm)			27.8
		#100 (.15mm)			7.3
		#200 (75µm)			1.7
		Pan			0.0
		FM			2.75
		-#200 (75µm)			1.7
		Wash Loss (#200/75µm)			1.4
		Total Moisture			4.2
					1.1
					2.0
					3.3
					1.8
					2.7
					100.0
					100.0
					100.0
					100.0
					94.3
					80.1
					18.5
					5.7
					3.6
					3.2
					3.0
					2.8
					2.7
					0.0
					2.5
					2.5

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Sample Date: **10/28/24**

Dates Test Represents: **10/29/2024**

through **11/4/2024**

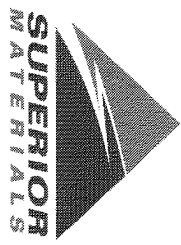
Concrete Grade: **P1M, 3500HP**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
CA	58-003	Stoneco	1470	8.76	2.69	47.1
IA	58-003	Stoneco	450	2.68	2.69	14.4
ZNS	63-114	Highland	1200	7.26	2.65	38.5
Total Wt			3120	18.70		100.0

Sieve	CA	IA	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"	49.1	100.0	100.0	76.0	24.0	24.0
3/4"	27.0	100.0	100.0	65.7	10.3	34.3
1/2"	17.0	92.6	100.0	59.8	5.9	40.2
3/8"	12.0	74.9	100.0	54.9	4.9	45.1
#4	2.3	15.5	98.7	41.3	13.6	58.7
#8	1.4	5.2	84.0	33.7	7.6	66.3
#16	1.1	3.0	66.3	26.5	7.3	73.5
#30	1.1	2.4	45.7	18.4	8.0	81.6
#50	1.0	2.1	21.0	8.9	9.6	91.1
#100	0.9	1.9	4.8	2.5	6.3	97.5
LBW	0.7	1.8	1.0	1.0	1.6	99.0



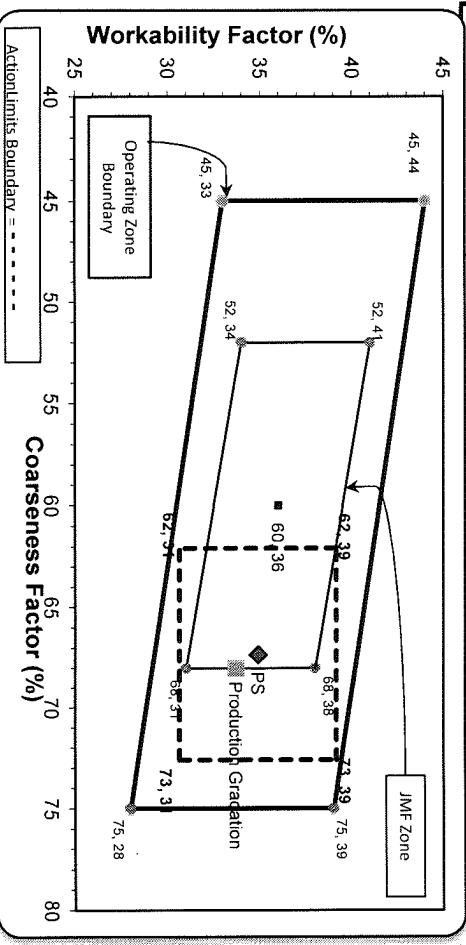
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

Sieve	CA	IA	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"	49.1	100.0	100.0	76.0	24.0	24.0
3/4"	27.0	100.0	100.0	65.7	10.3	34.3
1/2"	17.0	92.6	100.0	59.8	5.9	40.2
3/8"	12.0	74.9	100.0	54.9	4.9	45.1
#4	2.3	15.5	98.7	41.3	13.6	58.7
#8	1.4	5.2	84.0	33.7	7.6	66.3
#16	1.1	3.0	66.3	26.5	7.3	73.5
#30	1.1	2.4	45.7	18.4	8.0	81.6
#50	1.0	2.1	21.0	8.9	9.6	91.1
#100	0.9	1.9	4.8	2.5	6.3	97.5
LBW	0.7	1.8	1.0	1.0	1.6	99.0

*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.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

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



Initial Production Sample (IPS)

Coarseness Factor: **67** 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"	85.5	14.5	14.5
3/4"	73.4	12.1	26.6
1/2"	61.0	12.4	39.0
3/8"	56.2	4.8	43.8
#4	43.1	13.1	56.9
#8	34.9	8.2	65.1
#16	29.4	5.5	70.6
#30	21.6	7.8	78.4
#50	8.1	13.4	91.9
#100	2.2	5.9	97.8
LBW	1.4	0.8	98.6

PREPARED BY: SM, LLC Technical Service

Approved BY: _____



Daily Summary Report

Date Tuesday, October 29, 2024

Sample Id	-674975221	-1989646889	-674935756	-34335758	-1989638413
Plant	S103 Superior Brighton	S103 Superior Brighton	S103 Superior Brighton	S103 Superior Brighton	S103 Superior Brighton
Product	7919 COARSE AGG P1M LS	1051 6AA LS	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	09:15	09:16	09:17	09:18	17:22
2" (50mm)	100.0	100.0	100.0	100.0	
1 1/2" (37.5mm)	100.0	100.0	100.0	100.0	
1" (25mm)	49.1	98.6	100.0	100.0	
3/4" (19mm)	27.3	81.6	100.0	100.0	
1/2" (12.5mm)	17.0	39.0	92.6	98.8	
3/8" (9.5mm)	12.0	15.1	74.9	87.1	100.0
#4 (4.75mm)	2.3	2.5	15.5	7.8	98.7
#8 (2.36mm)	1.4	2.0	5.2	3.4	84.0
#16 (1.18mm)	1.1	1.7	3.0	2.8	66.3
#30 (.6mm)	1.1	1.6	2.4	2.6	45.7
#50 (.3mm)	1.0	1.5	2.1	2.3	21.0
#100 (.15mm)	0.9	1.4	1.9	2.2	4.8
#200 (.075mm)	0.8	1.31	1.9	2.2	1.1
Pan	0.0	0.00	0.0	0.0	0.0
FM					2.80
Wash Loss (#200/75um)	0.7	1.3	1.8	2.0	1.0
Total Moisture	2.62	3.41	3.15	3.25	4.01