

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P11

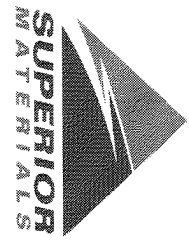
Sample Date: 9/23/24

Dates Test Represents: 9/24/2024 through 9/30/2024

Concrete Grade: P1M, 3500HP

Contractor: _____

MDOT No.: _____



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

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %
CA	71-47	Presque Isle	770	4.71	2.62	25.1
IA	71-47	Presque Isle	1100	6.73	2.62	35.8
N2S	63-115	Ray Rd	1200	7.26	2.65	39.1
		Total Wt	3070			100.0

Sieve	CA	IA	N2S	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.8	100.0	100.0	98.9	1.1	1.1
1"	40.7	100.0	100.0	85.1	13.8	14.9
3/4"	10.4	100.0	100.0	77.4	7.7	22.6
1/2"	5.0	100.0	100.0	65.6	11.8	34.4
3/8"	3.3	43.7	100.0	55.6	10.1	44.4
#4	2.2	7.3	95.3	40.4	15.2	59.6
#8	2.1	3.6	80.7	33.4	7.1	66.6
#16	2.1	2.9	66.1	27.4	6.0	72.6
#30	2.0	2.7	49.8	20.9	6.5	79.1
#50	2.0	2.5	23.4	10.5	10.4	89.5
#100	1.8	2.4	5.9	3.6	6.9	96.4
LBW	1.4	2.2	0.8	1.5	2.2	98.5

Verify this number is 100%

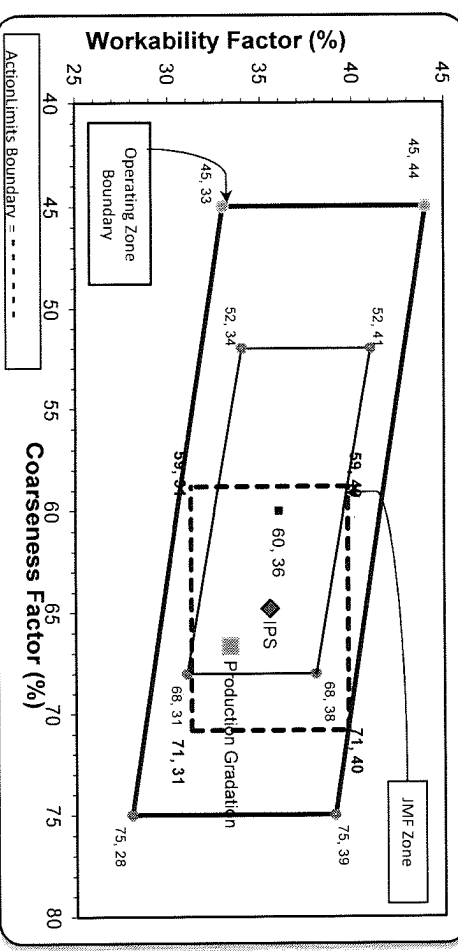
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max.
 nom. max. #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max.
 nom. max. #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when
 a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 67 **Workability Factor:** 33

Initial Production Sample (IPS)

Coarseness Factor: 65 **Workability Factor:** 36



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.
 2809 Dix Avenue, Detroit, MI 48209
 (313) 845-1720

Superior Onsite
 Jefferson

Daily Summary Report

Date Thursday, September 26, 2024

Sample Id	Plant	Product	Specification	Sample Type	Time
-674942864	S000 Superior Onsite	7919 COARSE AGG P1M LS	Coarse Agg P1M LS Target	QA	17:26
-674969728	S000 Superior Onsite	1051 6AA LS	Intermed Agg P1M LS Target	QA	17:29
-674918687	S000 Superior Onsite	7920 INTERMED AGG P1M LS	Intermed Agg P1M LS Target	QA	17:32
-674988921	S000 Superior Onsite	1067 26A Mod LS	26A Mod LS Spec	QA	17:33
-674966699	S000 Superior Onsite	1022 2NS GR	2NS GR Spec	QA	17:34
2" (50mm)					100.0
1 1/2" (37.5mm)					95.8
1" (25mm)					40.7
3/4" (19mm)					10.4
1/2" (12.5mm)					5.0
3/8" (9.5mm)					3.3
#4 (4.75mm)					2.2
#8 (2.36mm)					2.1
#16 (1.18mm)					2.1
#30 (.6mm)					2.0
#50 (.3mm)					2.0
#100 (.15mm)					1.8
#200 (75µm)					1.6
Pan					0.0
FM					
#200 (75µm)					1.4
Wash Loss (#200/75µm)					1.4
Total Moisture					1.7
					2.5
					3.4
					1.7
					3.0
					5.1

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **12**

Sample Date: 9/23/24

Dates Test Represents: 9/24/2024 through 9/30/2024

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
NNS	63-115	Ray Rd	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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

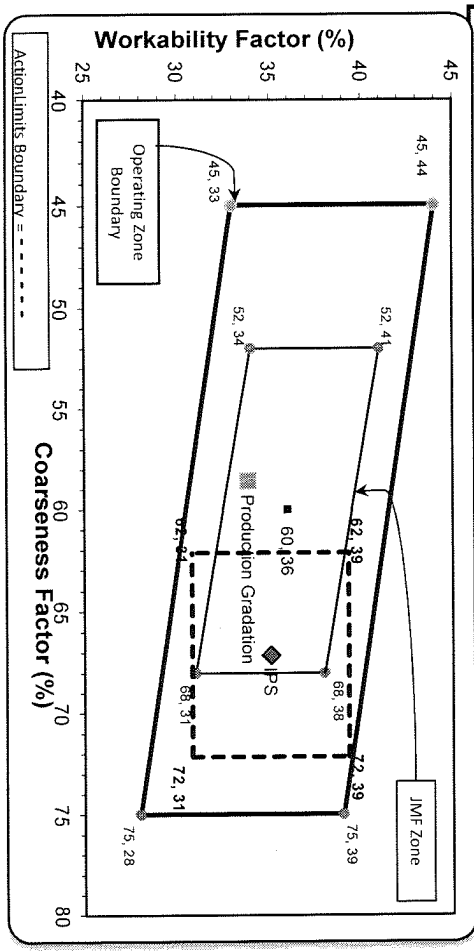
Sieve	CA	IA	NNS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.9	100.0	100.0	99.1	0.9	0.9
1"	29.0	100.0	100.0	79.9	19.2	20.1
3/4"	4.6	99.5	100.0	72.8	7.1	27.2
1/2"	1.5	100.0	100.0	66.9	5.9	33.1
3/8"	1.5	66.8	100.0	61.3	5.7	38.7
#4	1.5	16.2	95.5	43.0	18.2	57.0
#8	1.5	4.4	81.9	33.9	9.2	66.1
#16	1.4	2.8	67.5	27.7	6.2	72.3
#30	1.4	2.4	50.6	21.0	6.7	79.0
#50	1.3	2.3	22.6	10.0	11.0	90.0
#100	1.3	2.2	5.3	3.2	6.8	96.8
LBW	1.0	2.0	0.8	1.2	1.9	98.8

*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: **59** Workability Factor: **34**



Initial Production Sample (IPS)

Sieve	Coarseness Factor:	Workability Factor:	% Retained	Cumulative % Retained
2"	67	35	0.0	0.0
1.5"			0.4	0.4
1"			15.7	16.1
3/4"			74.0	26.0
1/2"			63.7	36.3
3/8"			56.4	43.6
#4			43.0	57.0
#8			35.1	64.9
#16			29.0	71.0
#30			20.9	79.1
#50			8.1	91.9
#100			1.6	98.4
LBW			0.9	99.1

PREPARED BY:
SM, LLC Technical Service

Approved By: _____



EDW. C. LEVY CO.
 8800 Oak Avenue, Dalton, MA 04821
 (978) 645-7230

Superior Onsite
 Southfield

Daily Summary Report

Date Tuesday, September 24, 2024

Sample Id	Plant	Product	Specification	Sample Type	Time	1 1/2" (37.5mm)	1" (25mm)	3/4" (19mm)	1/2" (12.5mm)	3/8" (9.5mm)	#4 (4.75mm)	#8 (2.36mm)	#16 (1.18mm)	#30 (.6mm)	#50 (.3mm)	#100 (.15mm)	#200 (75µm)	Pan	FM	#200 (75µm)	Wash Loss (#200/75µm)	Total Moisture
-315823338	S000 Superior Onsite	7919 COARSE AGG P1M LS	Coarse Agg P1M LS Target	QA	17:19	100.0	96.9	29.0	4.6	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.2	0.0			1.0	0.9
-1989640296	S000 Superior Onsite	1051 6AA LS	26A Mod LS Spec	QA	17:21	100.0	100.0	91.3	72.0	17.2	3.0	1.9	1.7	1.6	1.5	1.5	1.36	0.00			1.3	2.5
-674938038	S000 Superior Onsite	1067 26A Mod LS	26A Mod LS Spec	QA	17:23	100.0	100.0	100.0	93.3	80.0	15.6	4.2	2.7	2.2	2.0	1.8	1.6	0.0			1.5	2.8
-674935909	S000 Superior Onsite	7920 INTERMED AGG P1M LS	Intermed Agg P1M LS Target	QA	17:23	100.0	100.0	99.5	84.2	66.8	16.2	4.4	2.8	2.4	2.3	2.2	2.1	0.0			2.0	1.7
-1989661869	S000 Superior Onsite	1022 ZNS GR	ZNS GR Spec	QA	17:25	100.0	95.5	81.9	67.5	50.6	22.6	5.3	1.1	0.0	2.77	1.1	0.8	5.0				