

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P11

Sample Date: 8/26/24

Dates Test Represents: 8/27/2024 through 9/2/2024

Concrete Grade: P1M, 3500HP

Contractor: _____

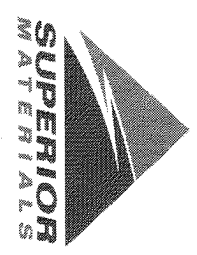
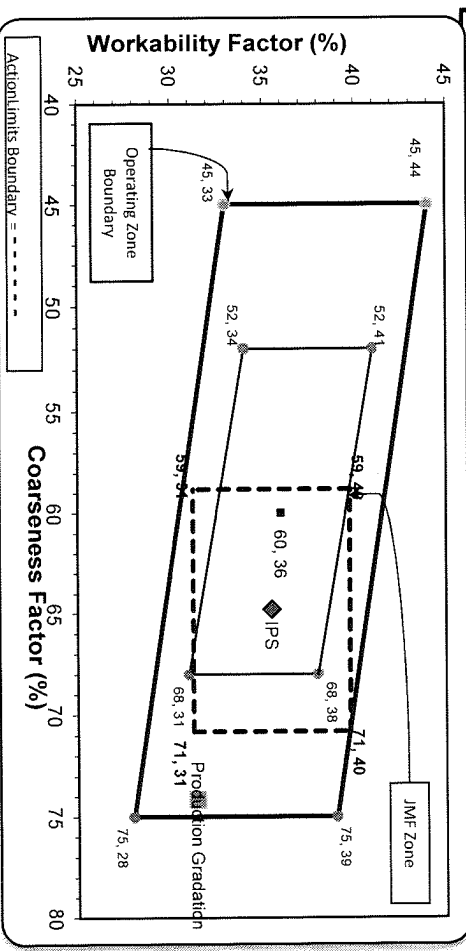
MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %
CA	71-47	Presque Isle	950	5.81	2.62	30.9
IA	71-47	Presque Isle	920	5.63	2.62	30.0
NNS	63-115	Ray Rd	1200	7.26	2.65	39.1
Total Wt						100.0

Sieve	CA	IA	NNS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.4	100.0	100.0	99.5	0.5	0.5
1"	32.4	100.0	100.0	79.1	20.4	20.9
3/4"	7.1	98.2	100.0	70.7	8.4	29.3
1/2"	1.5	62.6	100.0	58.3	12.4	41.7
3/8"	1.2	32.4	100.0	49.2	9.1	50.8
#4	1.1	3.7	95.3	38.7	10.5	61.3
#8	1.1	1.8	78.2	31.4	7.3	68.6
#16	1.1	1.5	62.3	25.1	6.3	74.9
#30	1.0	1.4	46.7	19.0	6.2	81.0
#50	1.0	1.4	25.8	10.8	8.2	89.2
#100	1.0	1.3	6.8	3.4	7.5	96.6
LBW	0.8	1.1	0.8	0.9	2.5	99.1

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 74 Workability Factor: 31



Superior Materials, LLC
 30701 W. 10 Mile Rd.
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 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.

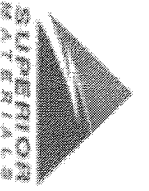
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.0	0.6	0.6
1"	84.0	15.3	16.0
3/4"	73.5	10.5	26.5
1/2"	65.2	8.2	34.8
3/8"	58.2	7.1	41.8
#4	44.1	14.1	55.9
#8	35.5	8.6	64.5
#16	29.1	6.4	70.9
#30	21.9	7.3	78.1
#50	9.6	12.2	90.4
#100	2.6	7.1	97.4
LBW	1.0	1.6	99.0

Initial Production Sample (IPS)

Coarseness Factor: 65 Workability Factor: 36

PREPARED BY:
 SM, LLC Technical Service

Approved By: _____



Daily Summary Report

Date Tuesday, August 27, 2024

Sample Id - 674975981 -674967823 -1989626636

Plant S11 S11 S11

Product 7919 COARSE AGG P1M LS 7920 INTERMED AGG P1M LS 1022 2NS GR

Specification Coarse Agg P1M LS Target Interned Agg P1M LS Target 2NS GR Spec

Sample Type QA QA QA
Time 13:22 13:29 13:31

2" (50mm)	100.0	100.0	100.0
1 1/2" (37.5mm)	98.4	100.0	95.3
1" (25mm)	32.4	100.0	78.2
3/4" (19mm)	7.1	98.2	62.3
1/2" (12.5mm)	1.5	62.6	46.7
3/8" (9.5mm)	1.2	32.4	25.8
#4 (4.75mm)	1.1	3.7	6.8
#8 (2.36mm)	1.1	1.8	0.9
#16 (1.18mm)	1.1	1.5	0.0
#30 (6mm)	1.0	1.4	2.85
#50 (3mm)	1.0	1.4	0.8
#100 (.15mm)	1.0	1.3	0.8
#200 (75µm)	0.9	1.2	0.8
Pan	0.0	0.0	0.8
FM			3.64
Wash Loss (#200/75um)	0.8	1.1	
Total Moisture	0.14	1.65	

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-39**

Sample Date: **8/26/24**

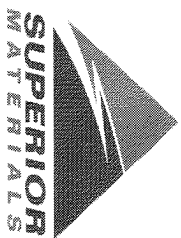
Dates Test Represents: **8/27/2024**

through **9/2/2024**

Concrete Grade: **P1M, 3500HP**

Contractor: _____

MDOT No.: _____



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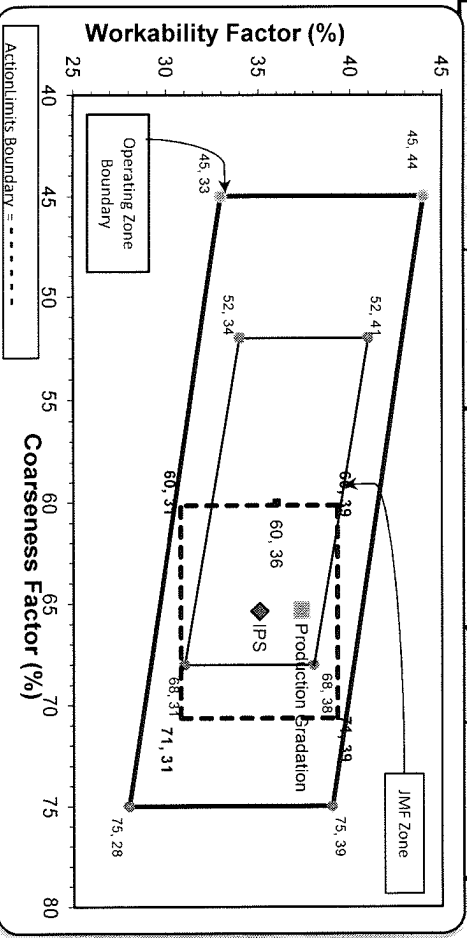
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %
CA	71-47	Presque Isle	920	5.63	2.62	30.0
IA	71-47	Presque Isle	900	5.50	2.62	29.3
NNS	44-051	Krake Willis Rd	1250	7.56	2.65	40.7
Total Wt						18.69
Total Wt						100.0

Sieve	CA	IA	NNS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.0	100.0	100.0	98.8	1.2	1.2
1"	31.0	100.0	100.0	79.3	19.5	20.7
3/4"	6.9	98.9	100.0	71.8	7.5	28.2
1/2"	2.9	82.7	100.0	65.8	5.9	34.2
3/8"	2.8	59.8	100.0	59.1	6.7	40.9
#4	2.7	16.2	99.3	46.0	13.1	54.0
#8	2.7	5.9	85.5	37.4	8.6	62.6
#16	2.6	4.4	70.1	30.6	6.7	69.4
#30	2.5	3.9	52.5	23.3	7.3	76.7
#50	2.3	3.3	24.4	11.6	11.7	88.4
#100	2.1	2.9	6.4	4.1	7.5	95.9
LBW	1.7	2.6	1.1	1.7	2.4	98.3

*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 8% for the 1" sieve when
 a 2" max. size (nom. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **65** Workability Factor: **37**

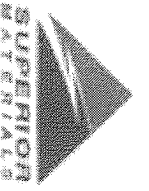


Initial Production Sample (IPS)

Sieve	Coarseness Factor:	Workability Factor:	% Retained	Cumulative % Retained
2"	65	35	0.0	0.0
1.5"			0.4	0.4
1"			15.7	16.1
3/4"			9.8	25.9
1/2"			9.7	35.7
3/8"			6.8	42.5
#4			13.1	55.5
#8			9.4	64.9
#16			7.2	72.1
#30			6.2	78.3
#50			9.1	87.4
#100			9.1	96.5
LBW			2.4	98.8

PREPARED BY:
 SM, LLC Technical Service

Approved By: _____



Daily Summary Report

Date: Wednesday, August 28, 2024

Sample Id	Plant	Product	Specification	Sample Type	Time
-1178925765	S39 Superior Sterling Heights 7919	COARSE AGG P1M LS	Coarse Agg P1M LS Target	QA	16:28
-1989634317	S39 Superior Sterling Heights 7920	INTERMED AGG P1M LS	Intermed Agg P1M LS Target	QA	16:29
-674965888	S39 Superior Sterling Heights 1022	2NS GR	2NS GR Spec	QA	16:30
2" (50mm)					100.0
1 1/2" (37.5mm)					96.0
1" (25mm)					31.0
3/4" (19mm)					6.9
1/2" (12.5mm)					2.9
3/8" (9.5mm)					2.8
#4 (4.75mm)					2.7
#8 (2.36mm)					2.7
#16 (1.18mm)					2.6
#30 (6mm)					2.5
#50 (3mm)					2.3
#100 (.15mm)					2.1
#200 (75µm)					1.8
Pan					0.0
FM					2.62
Wash Loss (#200/75µm)					1.7
Total Moisture					1.69
					2.36
					100.0
					100.0
					100.0
					59.8
					16.2
					5.9
					4.4
					3.9
					3.3
					2.9
					2.7
					0.0
					2.62
					1.1
					2.75