

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P11**

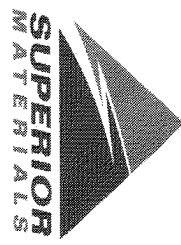
Sample Date: 11/18/24

Dates Test Represents: 11/19/2024 through 11/25/2024

Concrete Grade: **P1M, 3500HP**

Contractor: _____

MDOT No.: _____



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

Verify this number is 100%

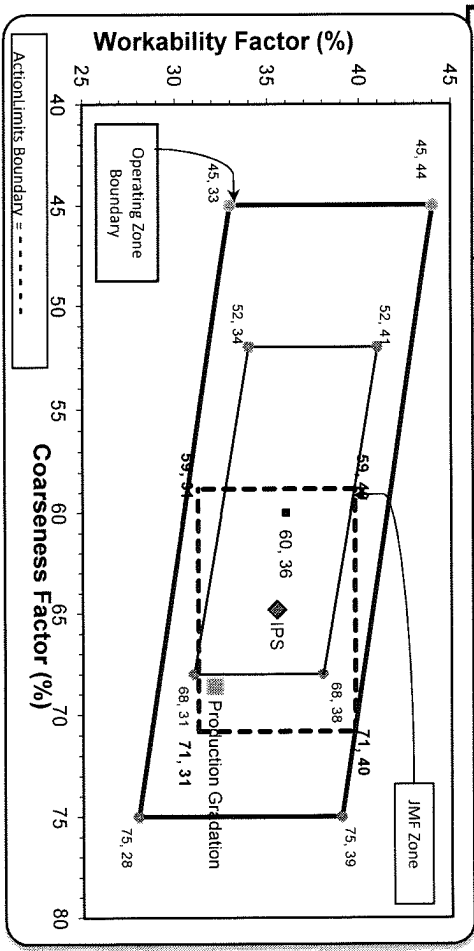
Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
CA	71-47	Presque Isle	870	5.32	2.62	28.3
IA	71-47	Presque Isle	1000	6.12	2.62	32.6
NNS	63-115	Ray Rd	1200	7.26	2.65	39.1
		Total Wt:	3070			100.0

Sieve	CA	IA	NNS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.8	100.0	100.0	99.1	0.9	0.9
1"	34.5	100.0	100.0	81.4	17.7	18.6
3/4"	89.5	99.5	100.0	74.0	7.4	26.0
1/2"	4.2	74.9	100.0	64.7	9.3	35.3
3/8"	3.7	40.9	100.0	53.5	11.2	46.5
#4	2.9	5.5	96.0	40.1	13.3	59.9
#8	2.6	3.2	77.7	32.2	8.0	67.8
#16	2.5	2.9	59.0	24.7	7.4	75.3
#30	2.4	2.8	40.9	17.6	7.1	82.4
#50	2.3	2.7	20.9	9.7	7.9	90.3
#100	2.1	2.7	5.0	3.4	6.3	96.6
LBW	1.7	2.4	0.7	1.5	1.9	98.5

*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: **69** Workability Factor: **32**



Initial Production Sample (IPS)

Sieve	% 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: _____

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-102**

Sample Date: **11/18/24**

Dates Test Represents: **11/19/2024**

through **11/25/2024**

Concrete Grade: **P1M, 3500HP**

Contractor: _____

MDOT No.: _____

Aggr. 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

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

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"	57.5	100.0	100.0	80.0	20.0	20.0
3/4"	32.2	100.0	100.0	68.1	31.9	31.9
1/2"	15.3	90.5	100.0	58.7	41.3	41.3
3/8"	7.8	65.5	100.0	51.6	48.4	48.4
#4	2.7	8.7	98.8	40.5	59.5	59.5
#8	2.6	3.5	82.5	33.5	66.5	66.5
#16	2.5	2.2	64.5	26.3	73.7	73.7
#30	2.4	1.8	44.2	18.4	81.6	81.6
#50	2.2	1.6	22.0	9.7	90.3	90.3
#100	2.0	1.5	4.8	3.0	97.0	97.0
LBW	1.6	1.3	0.9	1.3	98.7	98.7

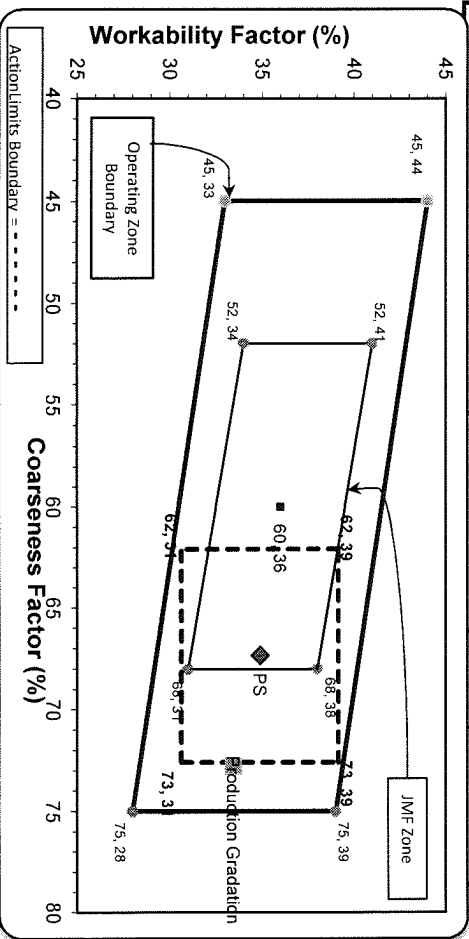
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max.
 nom. max. #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max.
 nom. max. #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when
 a 2" max. size (nom.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



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Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **73** Workability Factor: **33**

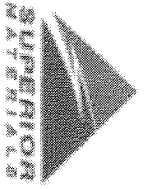


Initial Production Sample (IPS)

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, November 19, 2024

Sample Id	Plant	Product	Specification	Sample Type	Time	2" (50mm)	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	Wash Loss (#200/75µm)	Total Moisture
-1989644009	S102 Superior Novi	COARSE AGG P1M LS	Coarse Agg P1M LS Target	QA	09:14	100.0	100.0	57.5	32.2	15.3	7.8	2.7	2.6	2.5	2.4	2.2	2.0	1.8	0.0	0.0	1.6	3.41
-1178925848	S102 Superior Novi	6AA LS	6AA LS	QA	09:15	100.0	100.0	100.0	75.0	30.8	13.3	1.8	1.3	1.1	1.0	0.9	0.9	0.82	0.00	0.0	0.7	6.43
-674968172	S102 Superior Novi	INTERMED AGG P1M LS	Intermed Agg P1M LS Target	QA	09:16	100.0	100.0	100.0	100.0	90.5	65.5	8.7	3.5	2.2	1.8	1.6	1.5	1.4	0.0	0.0	1.3	4.25
-667668048	S102 Superior Novi	26A Mod LS	26A Mod LS Spec	QA	09:17	100.0	100.0	100.0	100.0	99.1	86.5	7.4	2.5	1.9	1.7	1.5	1.4	1.4	0.0	0.0	1.3	5.51
-674972506	S102 Superior Novi	2NS GR	2NS GR Spec	QA	16:04	100.0	98.8	82.5	64.5	44.2	22.0	4.8	1.1	0.0	0.0	0.0	0.0	0.0	0.0	2.83	0.9	5.00