

Aggregate Optimization Chart

Production Gradation Report

PLANT #: p11

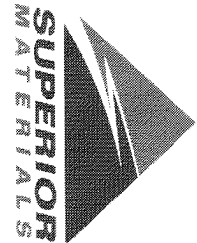
Sample Date: 6/24/24

Dates Test Represents: 6/25/2024 through 7/1/2024

Concrete Grade: DM, 4500HP

Contractor: _____

MDOT No.: _____



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

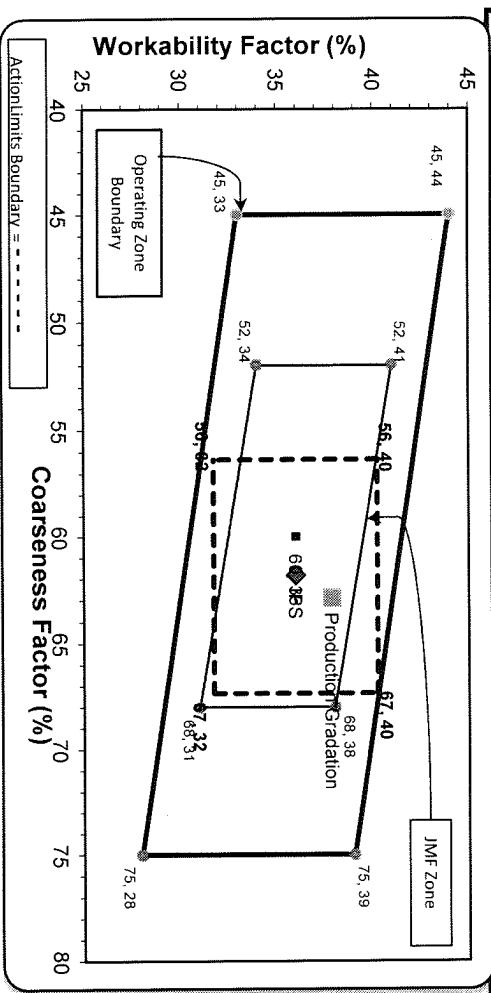
Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1455	8.90	2.62	50.1
26A	71-47	Presque Isle	300	1.83	2.62	10.3
ZNS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt			2905	17.69		100.0

Sieve	6AA	26A	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"	98.7	100.0	100.0	99.3	0.7	0.7
3/4"	83.8	100.0	100.0	91.9	7.5	8.1
1/2"	43.2	94.9	100.0	71.0	20.9	29.0
3/8"	22.2	83.5	100.0	59.3	11.7	40.7
#4	5.2	20.8	95.9	42.7	16.6	57.3
#8	3.3	5.1	83.8	35.4	7.4	64.6
#16	2.0	3.3	69.2	28.7	6.6	71.3
#30	1.7	2.9	50.5	21.1	7.6	78.9
#50	1.6	2.8	24.3	10.7	10.4	89.3
#100	1.5	2.7	7.4	4.0	6.8	96.0
LBW	1.3	2.6	2.0	1.7	2.2	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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

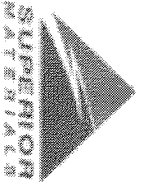
Coarseness Factor: **63** Workability Factor: **35** Adjusted WF: **37.9**



Sieve	Coarseness Factor:	Workability Factor:	Adjusted WF
2"	62	36	37.9
1.5"	62	36	37.9
1"	62	36	37.9
3/4"	62	36	37.9
1/2"	62	36	37.9
3/8"	62	36	37.9
#4	62	36	37.9
#8	62	36	37.9
#16	62	36	37.9
#30	62	36	37.9
#50	62	36	37.9
#100	62	36	37.9
LBW	62	36	37.9

PREPARED BY: SM, LLC Technical Service

Approved By: _____



Daily Summary Report

Date Tuesday, June 25, 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 (.075mm)	Pan
-1989628059		7919 COARSE AGG P1M LS	Coarse Agg P1M LS Target	QA	07:15	100.0	100.0	43.9	9.8	1.7	1.5	1.4	1.4	1.4	1.3	1.2	1.1	0.0	0.0
-674969604		7920 INTERMED AGG P1M LS	Intermed Agg P1M LS Target	QA	07:20	100.0	100.0	100.0	100.0	79.4	49.2	6.8	2.2	1.7	1.5	1.4	1.3	0.0	0.0
-1018110836		1022 2NS GR	2NS GR Spec	QA	07:30	100.0	100.0	100.0	100.0	94.9	83.5	20.8	5.1	3.3	2.9	2.7	2.0	0.0	0.0
-674964846		1067 26A Mod LS	26A Mod LS Spec	QA	12:17	100.0	100.0	100.0	100.0	94.9	83.5	20.8	5.1	3.3	2.9	2.7	2.0	0.0	0.0
-674966533		1051 6AA LS	6AA LS	QA	12:21	100.0	100.0	98.7	83.8	43.2	22.2	5.2	3.3	2.0	1.7	1.5	1.32	0.00	0.00

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-102

Sample Date: 6/24/24

Dates Test Represents: 6/25/2024 through 7/1/2024

Concrete Grade: DM, 4500HP

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %
6AA	58-003	Stonoco	1400	8.34	2.69	47.5
26A	58-003	Stonoco	400	2.38	2.69	13.6
2NS	63-114	Highland	1150	6.95	2.65	39.0
Total Wt						2950
						17.68
						100.0

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

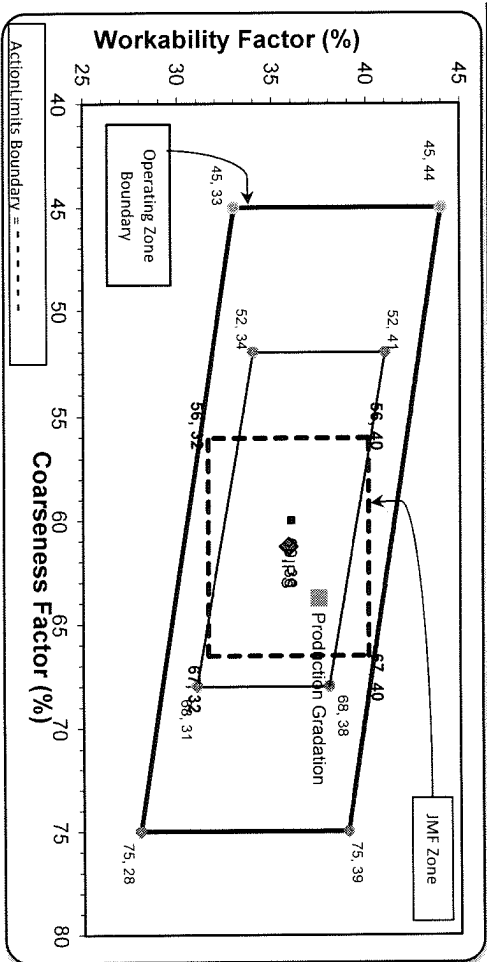
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	99.5	100.0	100.0	99.8	0.2	0.2
3/4"	86.0	100.0	100.0	93.4	6.6	6.6
1/2"	38.7	99.1	100.0	70.8	22.6	29.2
3/8"	15.4	90.3	100.0	58.5	12.3	41.5
#4	2.7	10.6	98.9	41.3	17.3	58.7
#8	1.8	3.5	86.3	35.0	6.3	65.0
#16	1.5	2.5	71.2	28.8	6.2	71.2
#30	1.3	2.1	53.2	21.6	7.2	78.4
#50	1.3	1.9	21.8	9.4	12.3	90.6
#100	1.2	1.7	3.8	2.3	7.1	97.7
LBW	1.1	1.6	1.0	1.1	1.2	98.9

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor: 64 **Workability Factor:** 35

Coarseness Factor: 61 **Workability Factor:** 36



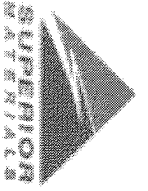
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
#8	35.9	8.5	64.1
#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3



*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. 1.0") aggregate is used.

PREPARED BY:
SM, LLC Technical Service

Approved By: _____



Daily Summary Report

Date Monday, June 24, 2024

Sample Id	Plant	Product	Specification	Sample Type	Time
-1989627355	S102 Superior Novi	1051 6AA LS	6AA LS	QA	12:15
-1989631468	S102 Superior Novi	1067 26A Mod LS	26A Mod LS Spec	QA	14:49
-1376933910	S102 Superior Novi	1022 ZNS GR	ZNS GR Spec	QA	14:55
2" (50mm)					100.0
1 1/2" (37.5mm)					100.0
1" (25mm)					99.5
3/4" (19mm)					86.0
1/2" (12.5mm)					38.7
3/8" (9.5mm)					15.4
#4 (4.75mm)					2.7
#8 (2.36mm)					1.8
#16 (1.18mm)					1.5
#30 (.6mm)					1.3
#50 (.3mm)					1.3
#100 (.15mm)					1.2
#200 (75µm)					1.11
Pan					0.00