

Aggregate Optimization Chart

Production Gradation Report

PLANT #: 12

Sample Date: 9/16/24

Dates Test Represents: 9/17/2024 through 9/23/2024

Concrete Grade: **DM, 4500HP**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Cumulative Contribution %
6AA	71-47	Presque Isle	1350	8.26	2.62	46.5
26A	71-47	Presque Isle	405	2.48	2.62	13.9
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt			2905	17.69		100.0

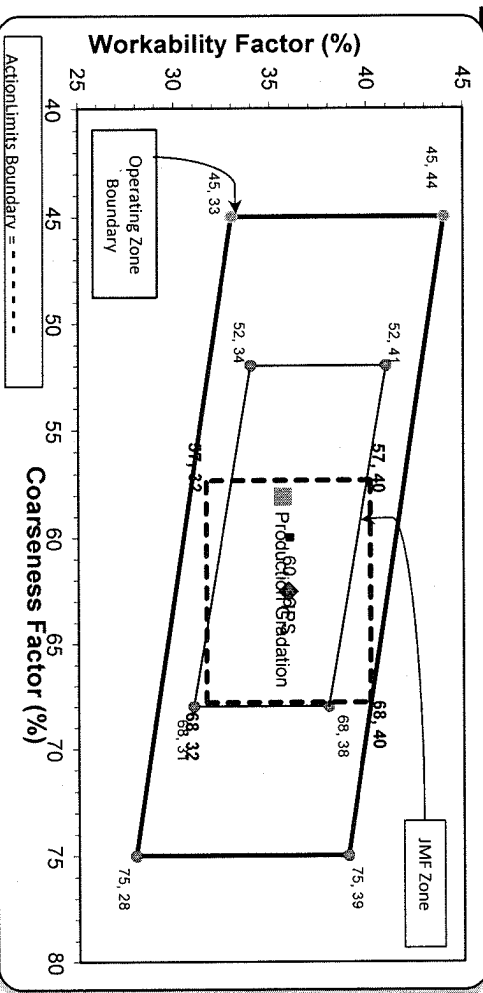
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	95.4	100.0	100.0	97.9	2.1	2.1
3/4"	77.6	100.0	100.0	89.6	8.3	10.4
1/2"	41.8	94.3	100.0	72.2	17.4	27.8
3/8"	21.7	82.5	100.0	61.2	11.0	38.8
#4	3.7	16.8	95.1	41.7	19.5	58.3
#8	2.6	4.2	79.2	33.1	8.6	66.9
#16	2.4	2.7	64.0	26.8	6.3	73.2
#30	2.3	2.3	49.3	20.9	5.9	79.1
#50	2.1	2.0	27.4	12.1	8.8	87.9
#100	2.0	1.9	7.5	4.2	7.9	95.8
LBW	1.7	1.7	0.9	1.4	2.8	98.6

Production Gradation: Batch Plant Gradations Aggregate Supplier Gradations

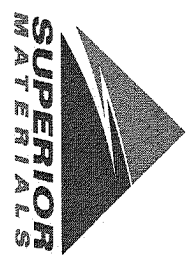
Coarseness Factor: 58 Workability Factor: 33 Adjusted WF: 35.6

Initial Production Sample (IPS)

Coarseness Factor: 63 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"	89.0	10.3	11.0
1/2"	70.3	18.7	29.7
3/8"	59.9	10.4	40.1
#4	41.9	18.0	58.1
#8	35.9	6.0	64.1
#16	27.8	8.2	72.2
#30	18.9	8.8	81.1
#50	6.3	12.6	93.7
#100	1.7	4.6	98.3
LBW	1.0	0.7	99.0

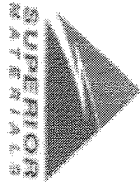


Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

*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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

PREPARED BY:
 SM, LLC Technical Service

Approved By: _____



Daily Summary Report

Date Tuesday, September 17, 2024

Sample Id	-674892729	-674951486	-674921932
Plant	Onsite Southfield	Onsite Southfield	Onsite Southfield
Product	1051 6AA LS	1067 26A Mod LS	1022 2NS GR
Specification	6AA LS	26A LS Spec	2NS GR Spec
Sample Type	QA	QA	QA
Time	12:00	12:01	12:02
2" (50mm)	100.0	100.0	100.0
1 1/2" (37.5mm)	100.0	100.0	95.1
1" (25mm)	95.4	100.0	79.2
3/4" (19mm)	77.6	100.0	64.0
1/2" (12.5mm)	41.8	94.3	49.3
3/8" (9.5mm)	21.7	82.5	27.4
#4 (4.75mm)	3.7	16.8	7.5
#8 (2.36mm)	2.6	4.2	1.4
#16 (1.18mm)	2.4	2.7	0.0
#30 (.6mm)	2.3	2.3	0.0
#50 (.3mm)	2.1	2.0	2.77
#100 (.15mm)	2.0	1.9	0.9
#200 (75µm)	1.80	1.8	0.9
Pan	0.00	0.0	2.62
FM			
Wash Loss (#200/75µm)	1.7	1.7	0.9
Total Moisture	1.58	1.61	2.62

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-102**

Sample Date: 9/16/24

Dates Test Represents: 9/17/2024 through 9/23/2024

Concrete Grade: **DM 4500HP**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %
6AA	58-003	Stoneco	1400	8.34	2.69	47.5
26A	58-003	Stoneco	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

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"	98.2	100.0	100.0	99.1	0.9	0.9
3/4"	82.2	100.0	100.0	91.6	7.6	8.4
1/2"	45.0	98.8	100.0	73.7	17.8	26.3
3/8"	19.9	84.7	100.0	59.9	13.8	40.1
#4	3.9	5.8	98.8	41.2	18.8	58.8
#8	2.3	2.4	85.5	34.7	6.4	65.3
#16	2.0	2.0	69.6	28.4	6.4	71.6
#30	1.8	1.8	51.9	21.3	7.0	78.7
#50	1.7	1.6	24.0	10.4	11.0	89.6
#100	1.6	1.5	5.0	2.9	7.5	97.1
LBW	1.4	1.4	0.5	1.0	1.9	99.0

Verify this number is 100%

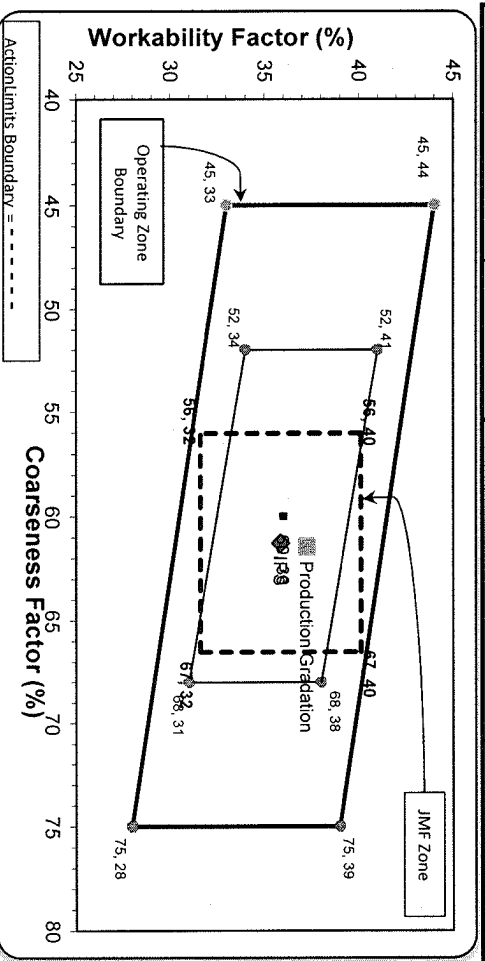
SUPERIOR MATERIALS
 Superior Materials, LLC
 30701 W. 10 Mile Rd.
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 Farmington Hills, MI 48336

*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 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: **61** Workability Factor: **35** Adjusted WF: **37.2**

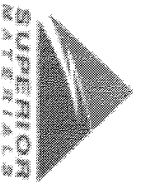
Initial Production Sample (IPS)
 Coarseness Factor: **61**
 Workability Factor: **36**



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

PREPARED BY:
 SM, LLC Technical Service

Approved By: _____



Daily Summary Report

Date Monday, September 16, 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
-367922554	S102 Superior Novi	COARSE AGG P1M LS	Coarse Agg P1M LS Target	QA	12:00	100.0	100.0	72.6	47.1	16.7	10.4	3.9	2.9	2.6	2.5	2.3	2.2	2.1	0.0	0.0	2.0	1.43
-1989640253	S102 Superior Novi	6AA LS	6AA LS	QA	12:01	100.0	100.0	98.2	82.2	45.0	19.9	3.9	2.3	2.0	1.8	1.7	1.6	1.48	0.00	0.00	1.4	2.29
-1989624723	S102 Superior Novi	INTERMED AGG P1M LS	Intermed Agg P1M LS Target	QA	12:02	100.0	100.0	100.0	100.0	91.2	69.7	15.0	3.3	1.7	1.4	1.3	1.2	1.1	0.0	0.0	1.1	0.47
-1989622114	S102 Superior Novi	26A Mod LS	26A Mod LS Spec	QA	12:03	100.0	100.0	100.0	100.0	98.8	84.7	5.8	2.4	2.0	1.8	1.6	1.5	1.4	0.0	0.0	1.4	2.10
-674966791	S102 Superior Novi	2NS GR	2NS GR Spec	QA	12:04	100.0	100.0	98.8	85.5	69.6	51.9	24.0	5.0	0.8	0.0	0.0	0.0	0.0	0.0	2.65	0.5	2.50