

Aggregate Optimization Chart

PLANT #: p11

Contractor: _____

Sample Date: 12/16/24

Concrete Grade: DM, 4500HP

Dates Test Represents: 12/17/2024 through 12/23/2024

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1550	9.48	2.62	53.4
26A	71-47	Presque Isle	205	1.25	2.62	7.1
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt			2905	17.69		100.0

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



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

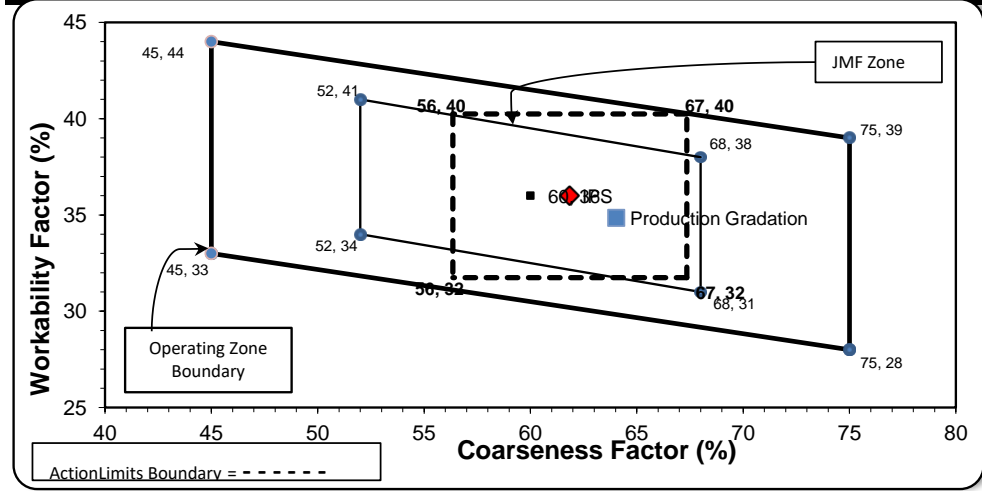
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	98.9	100.0	100.0	99.4	0.6	0.6
3/4"	86.1	100.0	100.0	92.6	6.8	7.4
1/2"	41.7	95.0	100.0	68.5	24.0	31.5
3/8"	20.9	84.2	100.0	56.7	11.9	43.3
#4	2.7	18.4	98.2	41.6	15.1	58.4
#8	1.4	4.1	79.1	32.3	9.3	67.7
#16	1.2	2.2	63.3	25.9	6.5	74.1
#30	1.1	1.8	48.4	19.9	6.0	80.1
#50	1.0	1.6	25.6	10.8	9.1	89.2
#100	0.9	1.5	6.2	3.0	7.7	97.0
LBW	0.7	1.4	0.9	0.8	2.2	99.2

*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

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor: 64	Workability Factor: 32	Adjusted WF 34.8	Coarseness Factor: 62
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Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	100.0	0.0	0.0
3/4"	95.0	5.0	5.0
1/2"	72.3	22.8	27.7
3/8"	60.4	11.8	39.6
#4	42.6	17.8	57.4
#8	36.0	6.6	64.0
#16	29.5	6.5	70.5
#30	20.3	9.2	79.7
#50	9.5	10.8	90.5
#100	3.4	6.1	96.6
LBW	1.3	2.1	98.7

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-02**

Sample Date: 12/16/24

Concrete Grade: DM, 4500HP

Contractor: _____

Dates Test Represents: 12/17/2024 through 12/23/2024

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1550	9.48	2.62	53.4
26A	71-47	Presque Isle	205	1.25	2.62	7.1
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt			2905	17.69		100.0

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



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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"	98.9	100.0	100.0	99.4	0.6	0.6
3/4"	86.1	100.0	100.0	92.6	6.8	7.4
1/2"	41.7	95.0	100.0	68.5	24.0	31.5
3/8"	20.9	84.2	100.0	56.7	11.9	43.3
#4	2.7	18.4	98.2	41.6	15.1	58.4
#8	1.4	4.1	79.1	32.3	9.3	67.7
#16	1.2	2.2	63.3	25.9	6.5	74.1
#30	1.1	1.8	48.4	19.9	6.0	80.1
#50	1.0	1.6	25.6	10.8	9.1	89.2
#100	0.9	1.5	6.2	3.0	7.7	97.0
LBW	0.7	1.4	0.9	0.8	2.2	99.2

*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.

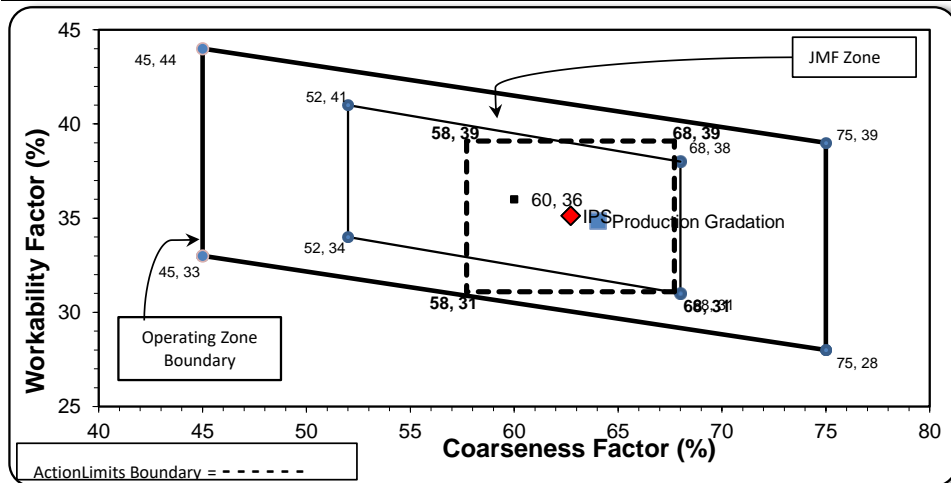
Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	64	Workability Factor:	32	34.8
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Coarseness Factor:	63
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Workability Factor:	35
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Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	100.0	0.0	0.0
3/4"	95.1	4.9	4.9
1/2"	74.6	20.5	25.4
3/8"	59.3	15.3	40.7
#4	42.1	17.2	57.9
#8	35.1	7.1	64.9
#16	29.2	5.9	70.8
#30	21.9	7.3	78.1
#50	9.6	12.4	90.4
#100	2.4	7.2	97.6
LBW	0.9	1.5	99.1

PREPARED BY:
 SM, LLC Technical Service

Approved By: