Aggregate Optimization Chart

Production Gradation Report

PLANT #: **p11**

Contractor: _____

Sample Date: 3/24/25

Concrete Grade: **DM, 4500HP**

Dates Test Represents: 3/25/2025 through 3/31/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% 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

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

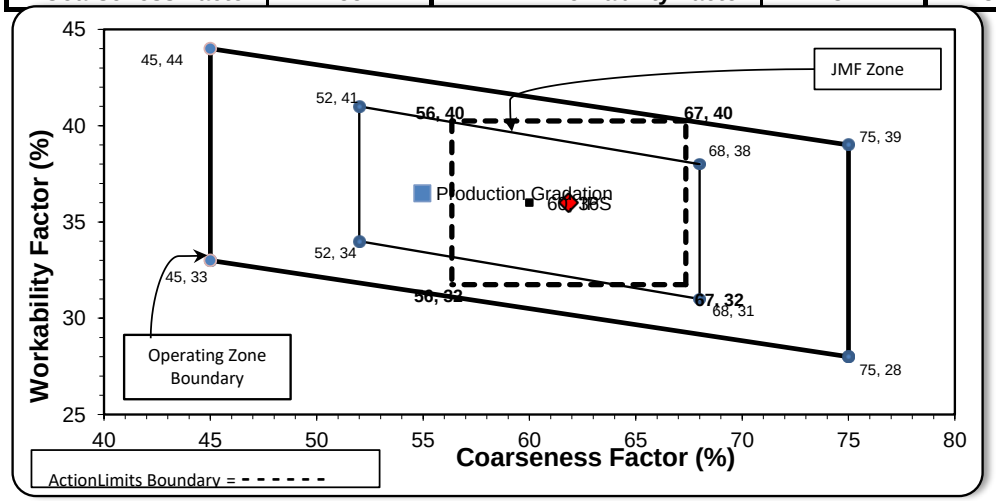
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	99.4	100.0	100.0	99.7	0.3	0.3
3/4"	86.8	100.0	100.0	93.9	5.9	6.1
1/2"	47.0	93.0	100.0	74.4	19.5	25.6
3/8"	29.1	76.1	100.0	63.7	10.7	36.3
#4	4.5	13.3	96.5	42.1	21.6	57.9
#8	2.5	4.6	81.3	34.0	8.2	66.0
#16	2.2	2.8	65.7	27.4	6.6	72.6
#30	2.1	2.3	49.3	20.8	6.6	79.2
#50	2.0	2.1	23.7	10.6	10.2	89.4
#100	1.9	1.9	4.4	2.9	7.7	97.1
LBW	1.7	1.6	0.6	1.3	1.6	98.7

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.

Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

Coarseness Factor:	55	Workability Factor:	34	Adjusted WF 36.5



Intial Production Sample (IPS)

Coarseness Factor:	62
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"	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

Approved By:

PREPARED BY:
SM, LLC Technical Service

EDW. C. LEVY CO.
8800 Dix Avenue, Detroit, MI 48209
(313) 843-7200

Daily Summary Report

Date Tuesday, March 25, 2025

	Sample Id	-674966805	-1989646142	-674935002	-1989641655	-674973588
	Plant	Superior Onsite	Superior Onsite	Superior Onsite	Superior Onsite	Superior Onsite
	Product	1067 26A Mod LS	1022 2NS GR	1051 6AA LS	7919 COARSE AGG P1M LS	7920 INTERMED AGG P1M LS
	Specification	26A Mod LS Spec	2NS GR Spec		Coarse Agg P1M LS Target	Intermed Agg P1M LS Target
	Sample Type	QA	QA	QA	QA	QA
2" (50mm)		100.0		100.0	100.0	100.0
1 1/2" (37.5mm)		100.0		100.0	95.9	100.0
1" (25mm)		100.0		99.4	36.3	100.0
3/4" (19mm)		100.0		86.8	8.4	97.0
1/2" (12.5mm)		93.0		47.0	2.9	66.0
3/8" (9.5mm)		76.1	100.0	29.1	2.0	37.4
#4 (4.75mm)		13.3	96.5	4.5	1.9	5.8
#8 (2.36mm)		4.6	81.3	2.5	1.8	3.1
#16 (1.18mm)		2.8	65.7	2.2	1.8	2.6
#30 (.6mm)		2.3	49.3	2.1	1.7	2.4
#50 (.3mm)		2.1	23.7	2.0	1.6	2.3
#100 (.15mm)		1.9	4.4	1.9	1.4	2.2
#200 (75µm)		1.7	0.7	1.85	1.3	2.1
Pan		0.0	0.0	0.00	0.0	0.0
FM			2.79			
-#200 (75um)			0.7			
Wash Loss (#200/75um)		1.6	0.6	1.7	1.2	2.0
Total Moisture		2.6	2.8	2.4	0.1	0.8

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-O2**

Contractor: _____

Sample Date: 3/24/25

Concrete Grade: **DM, 4500HP**

Dates Test Represents: 3/25/2025 through 3/31/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% 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

<----- 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"	99.1	100.0	100.0	99.6	0.4	0.4
3/4"	89.0	100.0	100.0	94.9	4.7	5.1
1/2"	51.6	94.2	100.0	76.7	18.2	23.3
3/8"	32.3	82.0	100.0	66.0	10.7	34.0
#4	5.2	23.0	96.1	43.7	22.4	56.3
#8	2.5	7.9	80.9	34.3	9.4	65.7
#16	2.1	4.5	65.7	27.6	6.7	72.4
#30	2.0	3.6	49.0	20.8	6.8	79.2
#50	2.0	3.2	22.9	10.4	10.4	89.6
#100	1.9	2.9	4.2	2.9	7.5	97.1
LBW	1.5	2.6	0.9	1.4	1.5	98.6

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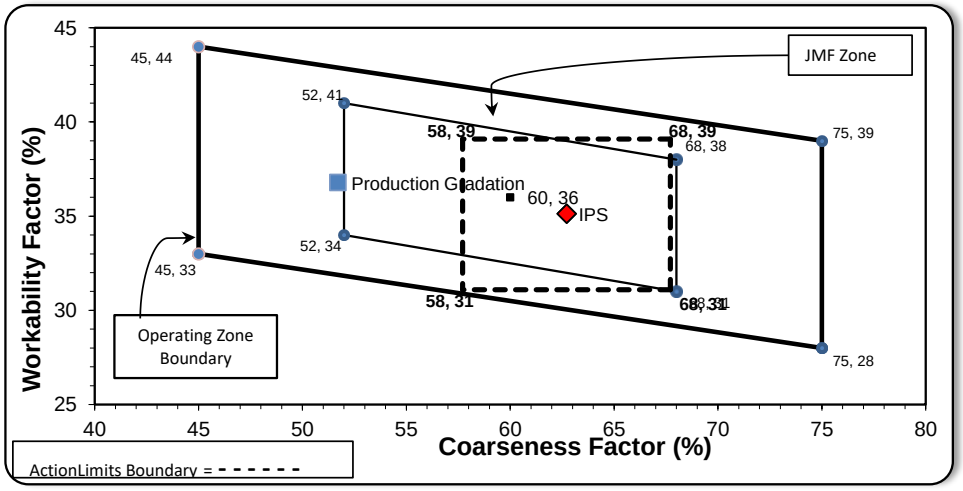
*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ◉ Batch Plant Gradations ○ Aggregate SupplierGradations

Coarseness Factor:	52	Workability Factor:	34	Adjusted WF 36.8



Intial Production Sample (IPS)

Coarseness Factor:	63
Workability Factor:	35

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:

Daily Summary Report

Date	Thursday, March 27, 2025		
Sample Id	-1989636294	-674950866	-1989623735
Plant	S02	S02	S02
Product	1054 6AA LS PI	1067 26A Mod LS	1022 2NS GR
Specification	6AA LS	26A Mod LS Spec	2NS GR Spec
Sample Type	QA	QA	QA
2" (50mm)	100.0	100.0	
1 1/2" (37.5mm)	100.0	100.0	
1" (25mm)	99.1	100.0	
3/4" (19mm)	89.0	100.0	
1/2" (12.5mm)	51.6	94.2	
3/8" (9.5mm)	32.3	82.0	100.0
#4 (4.75mm)	5.2	23.0	96.1
#8 (2.36mm)	2.5	7.9	80.9
#16 (1.18mm)	2.1	4.5	65.7
#30 (.6mm)	2.0	3.6	49.0
#50 (.3mm)	2.0	3.2	22.9
#100 (.15mm)	1.9	2.9	4.2
#200 (75µm)	1.69	2.7	1.1
Pan	0.00	0.0	0.0
FM			2.81
Wash Loss (#200/75um)	1.5	2.6	0.9
Total Moisture	2.17	2.55	3.12