

Aggregate Optimization Chart

PLANT #: **P-36**

Contractor: _____

Sample Date: 4/28/25

Concrete Grade: **P1M, 3500HP, 4000HP**

Dates Test Represents: 4/29/2025 through 5/5/2025

MDOT No.: _____

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
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



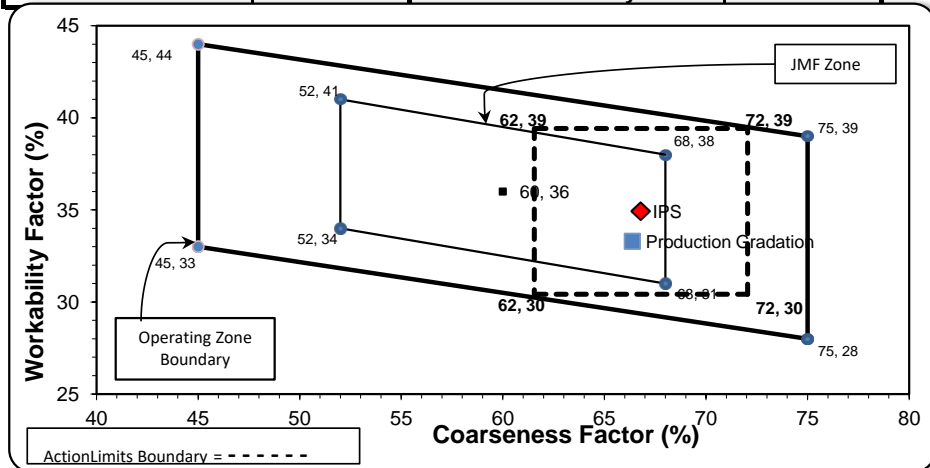
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.7	100.0	100.0	98.8	1.2	1.2
1"	35.3	100.0	100.0	81.7	17.1	18.3
3/4"	6.8	98.4	100.0	73.1	8.6	26.9
1/2"	2.1	78.1	100.0	65.1	7.9	34.9
3/8"	1.6	49.7	100.0	55.7	9.4	44.3
#4	1.6	7.6	97.0	40.8	14.9	59.2
#8	1.6	3.4	81.2	33.3	7.5	66.7
#16	1.5	2.7	65.0	26.7	6.6	73.3
#30	1.5	2.5	45.3	18.9	7.8	81.1
#50	1.4	2.3	17.9	8.1	10.8	91.9
#100	1.3	2.2	2.3	2.0	6.2	98.0
LBW	1.1	2.0	0.2	1.0	0.9	99.0

*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:	66	Workability Factor:	33
---------------------------	-----------	----------------------------	-----------



Initial Production Sample (IPS)

Coarseness Factor:	67		
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"	85.0	15.0	15.0
3/4"	72.1	12.9	27.9
1/2"	64.5	7.6	35.5
3/8"	56.5	8.0	43.5
#4	42.7	13.8	57.3
#8	34.9	7.8	65.1
#16	29.0	5.9	71.0
#30	21.0	8.0	79.0
#50	8.2	12.8	91.8
#100	1.6	6.5	98.4
LBW	0.7	0.9	99.3

PREPARED BY:
 SM, LLC Technical Service

Approved By:



Daily Summary Report

Date Tuesday, April 29, 2025

Sample Id	-1040801128	-1989657638	-1989628129
Plant	S36 Superior Auburn Hills 7919	S36 Superior Auburn Hills 7920	S36 Superior Auburn Hills 1022
Product	COARSE AGG P1M LS	INTERMED AGG P1M LS	2NS GR
Specification	Coarse Agg P1M LS Target	Intermed Agg P1M LS Target	2NS GR Spec
Sample Type	QA	QA	QA
2" (50mm)	100.0	100.0	
1 1/2" (37.5mm)	95.7	100.0	
1" (25mm)	35.3	100.0	
3/4" (19mm)	6.8	98.4	
1/2" (12.5mm)	2.1	78.1	
3/8" (9.5mm)	1.6	49.7	100.0
#4 (4.75mm)	1.6	7.6	97.0
#8 (2.36mm)	1.6	3.4	81.2
#16 (1.18mm)	1.5	2.7	65.0
#30 (.6mm)	1.5	2.5	45.3
#50 (.3mm)	1.4	2.3	17.9
#100 (.15mm)	1.3	2.2	2.3
#200 (75µm)	1.2	2.1	0.3
Pan	0.0	0.0	0.0
FM			2.91
Wash Loss (#200/75um)	1.1	2.0	0.2
Total Moisture	0.27	1.52	3.18

Aggregate Optimization Chart

PLANT #: **P-O2**

Contractor: _____

Sample Date: 4/28/25

Concrete Grade: **P1M, 3500HP, 4000HP**

Dates Test Represents: 4/29/2025 through 5/5/2025

MDOT No.: _____

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
2NS	63-115	Ray Rd	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



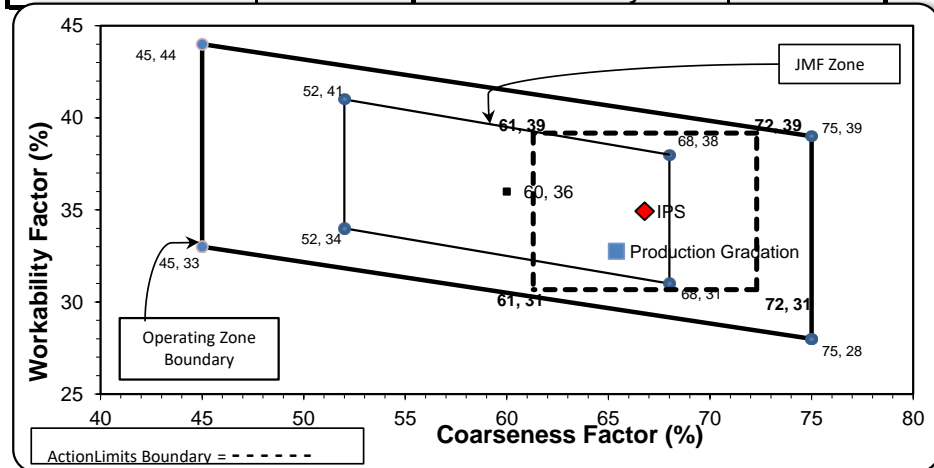
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	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"	36.0	100.0	100.0	81.9	18.1	18.1
3/4"	6.5	100.0	100.0	73.5	8.4	26.5
1/2"	1.8	78.3	100.0	65.1	8.4	34.9
3/8"	1.5	50.7	100.0	56.0	9.1	44.0
#4	1.4	7.2	96.8	40.6	15.4	59.4
#8	1.4	3.1	80.2	32.8	7.8	67.2
#16	1.4	2.6	63.9	26.2	6.5	73.8
#30	1.4	2.4	47.6	19.8	6.4	80.2
#50	1.4	2.3	25.3	11.0	8.7	89.0
#100	1.2	2.2	5.3	3.1	7.9	96.9
LBW	1.0	2.0	0.5	1.1	2.0	98.9

*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:	65	Workability Factor:	33
---------------------------	-----------	----------------------------	-----------



Initial Production Sample (IPS)

Coarseness Factor:	67		
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"	85.0	15.0	15.0
3/4"	72.3	12.7	27.7
1/2"	64.5	7.8	35.5
3/8"	56.5	8.0	43.5
#4	42.7	13.8	57.3
#8	34.9	7.8	65.1
#16	29.0	5.9	71.0
#30	21.0	8.0	79.0
#50	8.2	12.8	91.8
#100	1.6	6.5	98.4
LBW	0.7	0.9	99.3

PREPARED BY:
 SM, LLC Technical Service

Approved By:



Daily Summary Report

Date Tuesday, April 29, 2025

Sample Id	-674933428	-1989657716	-1989626668
Plant	Superior Hoover	Superior Hoover	Superior Hoover
Product	7919 COARSE AGG P1M LS	7920 INTERMED AGG P1M LS	1022 2NS GR
Specification	Coarse Agg P1M LS Target	Intermed Agg P1M LS Target	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)	36.0	100.0	
3/4" (19mm)	6.5	100.0	
1/2" (12.5mm)	1.8	78.3	
3/8" (9.5mm)	1.5	50.7	100.0
#4 (4.75mm)	1.4	7.2	96.8
#8 (2.36mm)	1.4	3.1	80.2
#16 (1.18mm)	1.4	2.6	63.9
#30 (.6mm)	1.4	2.4	47.6
#50 (.3mm)	1.4	2.3	25.3
#100 (.15mm)	1.2	2.2	5.3
#200 (75µm)	1.1	2.1	0.8
Pan	0.0	0.0	0.0
FM			2.81
Wash Loss (#200/75um)	1.0	2.0	0.5
Total Moisture	0.20	1.87	4.86