

# Aggregate Optimization Chart

## Production Gradation Report

PLANT #: **P-101**

Sample Date: **4/10/23**

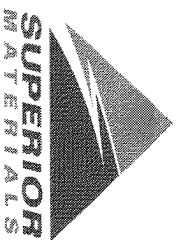
Dates Test Represents: **4/11/2023**

through **4/17/2023**

Concrete Grade: **P1M, 3500HP**

Contractor: \_\_\_\_\_

MDOT No.: \_\_\_\_\_



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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	Contribution %	
CA	71-47	Presque Isle	1070	6.54	2.62	34.9	
IA	71-47	Presque Isle	800	4.89	2.62	26.1	
2NS	75-051	Mid Michigan	1200	7.23	2.66	39.1	
Total Wt						3070	100.0
Total Wt						18.67	100.0

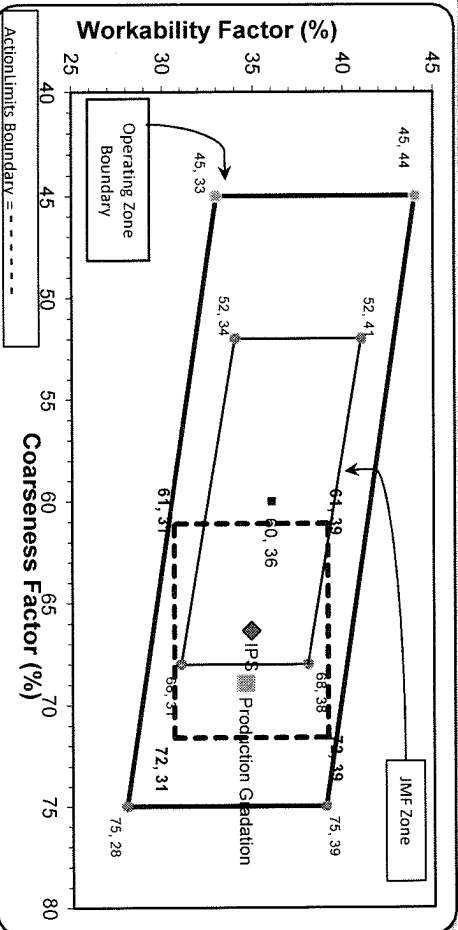
  

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.8	100.0	100.0	98.9	1.1	1.1
1"	34.4	100.0	100.0	77.1	21.7	22.9
3/4"	9.2	97.9	100.0	67.8	9.3	32.2
1/2"	2.7	82.2	100.0	61.4	6.4	38.6
3/8"	2.4	57.4	100.0	54.9	6.6	45.1
#4	2.0	13.6	97.9	42.5	12.4	57.5
#8	1.9	5.7	82.9	34.6	8.0	65.4
#16	1.9	4.1	67.6	28.2	6.4	71.8
#30	1.8	3.7	51.9	21.9	6.3	78.1
#50	1.8	3.3	25.8	11.6	10.3	88.4
#100	1.6	2.8	7.1	4.1	7.5	95.9
LBW	1.2	2.2	0.7	1.3	2.8	98.7

Verify this number is 100%

\*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: **69** Workability Factor: **35**



Initial Production Sample (IPS)

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.6	0.4	0.4
1"	84.3	15.3	15.7
3/4"	74.8	9.6	25.2
1/2"	64.3	10.4	35.7
3/8"	56.8	7.5	43.2
#4	43.0	13.8	57.0
#8	34.9	8.1	65.1
#16	26.4	8.5	73.6
#30	19.9	6.5	80.1
#50	10.4	9.5	89.6
#100	3.4	7.0	96.6
LBW	1.2	2.2	98.8

PREPARED BY:  
SM, LLC Technical Service

Approved By:



Plant S101-Superior Mount Clemens

Product 7919-COARSE AGG P1M LS

Period: 04/09/2023 - 04/15/2023

Name/Title Doug Storey / QC Technician

Report Date 04/15/2023

Procedure	Sieve/Test	Result	Unit	Coarse Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	96.8	%	
	1" (25mm)	34.4	%	
	3/4" (19mm)	9.2	%	
	1/2" (12.5mm)	2.7	%	
	3/8" (9.5mm)	2.4	%	
	#4 (4.75mm)	2.0	%	
	#8 (2.36mm)	1.9	%	
	#16 (1.18mm)	1.9	%	
	#30 (.6mm)	1.8	%	
	#50 (.3mm)	1.8	%	
	#100 (.15mm)	1.6	%	
	#200 (75µm)	1.3	%	
	Wash Loss (#200/75um)	1.2	%	0-2
	Total Moisture	0.56	%	



Plant S101-Superior Mount Clemens

Product 7920-INTERMED AGG P1M LS

Name/Title Doug Storey / QC Technician

Period: 04/09/2023 - 04/15/2023

Report Date 04/15/2023

Procedure	Sieve/Test	Result	Unit	Intermed Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	
	1" (25mm)	100.0	%	
	3/4" (19mm)	97.9	%	
	1/2" (12.5mm)	82.2	%	
	3/8" (9.5mm)	57.4	%	
	#4 (4.75mm)	13.6	%	
	#8 (2.36mm)	5.7	%	
	#16 (1.18mm)	4.1	%	
	#30 (.6mm)	3.7	%	
	#50 (.3mm)	3.3	%	
	#100 (.15mm)	2.8	%	
	#200 (75µm)	2.3	%	
	Wash Loss (#200/75um)	2.2	%	0-3
	Total Moisture	2.24	%	



Plant S101-Superior Mount Clemens

Product 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 04/09/2023 - 04/15/2023

Report Date 04/15/2023

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	97.9	%	95-100
	#8 (2.36mm)	82.9	%	65-95
	#16 (1.18mm)	67.6	%	35-75
	#30 (.6mm)	51.9	%	20-55
	#50 (.3mm)	25.8	%	10-30
	#100 (.15mm)	7.1	%	0-10
	#200 (75µm)	0.9	%	
	FM	2.67		2.6-3
	Wash Loss (#200/75um)	0.7	%	0-3
	Total Moisture	4.63	%	