

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-101

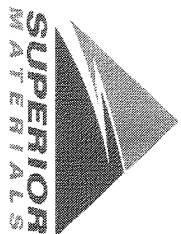
Sample Date: 10/4/21

Dates Test Represents: 10/5/2021 through 10/11/2021

Concrete Grade: P1M

Contractor: _____

MDOT No.: _____



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

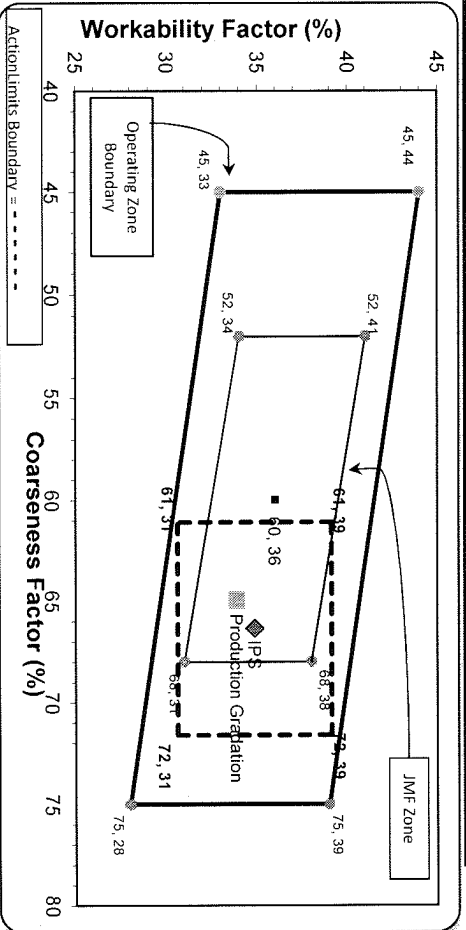
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1070	6.54	2.62	34.9
IA	71-47	Presque Isle	800	4.89	2.62	26.1
NNS	75-051	Mid-Michigan	1200	7.23	2.66	39.1
Total Wt						100.0

Sieve	CA	IA	NNS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	94.9	100.0	100.0	98.2	1.8	1.8
1"	40.3	100.0	100.0	79.2	19.0	20.8
3/4"	11.5	100.0	100.0	68.9	10.3	31.1
1/2"	4.8	85.3	100.0	63.0	5.9	37.0
3/8"	4.0	63.6	100.0	57.1	5.9	42.9
#4	3.3	18.3	98.7	44.5	12.6	55.5
#8	2.9	5.1	80.7	33.9	10.6	66.1
#16	2.7	3.1	63.1	26.4	7.5	73.6
#30	2.4	2.8	48.1	20.4	6.0	79.6
#50	2.3	2.6	24.2	10.9	9.4	89.1
#100	2.1	2.4	7.1	4.1	6.8	95.9
LBW	1.8	2.2	1.3	1.7	2.4	98.3

*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: 34



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 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 10/03/2021 - 10/09/2021

Report Date 10/10/2021

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	98.7	%	95-100
	#8 (2.36mm)	80.7	%	65-95
	#16 (1.18mm)	63.1	%	35-75
	#30 (.6mm)	48.1	%	20-55
	#50 (.3mm)	24.2	%	10-30
	#100 (.15mm)	7.1	%	0-10
	#200 (75µm)	1.5	%	
	FM	2.78		2.6-3
	Wash Loss (#200/75um)	1.3	%	0-3
	Total Moisture	5.24	%	



Plant S101-Superior Mount Clemens

Product 7920-INTERMED AGG P1M LS

Period: 10/03/2021 - 10/09/2021

Name/Title Doug Storey / QC Technician

Report Date 10/10/2021

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)	99.1	%	
	1/2" (12.5mm)	85.3	%	
	3/8" (9.5mm)	63.6	%	
	#4 (4.75mm)	18.3	%	
	#8 (2.36mm)	5.1	%	
	#16 (1.18mm)	3.1	%	
	#30 (.6mm)	2.8	%	
	#50 (.3mm)	2.6	%	
	#100 (.15mm)	2.4	%	
	#200 (75µm)	2.3	%	
	Wash Loss (#200/75um)	2.2	%	0-3
	Total Moisture	2.09	%	



Plant S101-Superior Mount Clemens

Product 7919-COARSE AGG P1M LS

Name/Title Doug Storey / QC Technician

Period: 10/03/2021 - 10/09/2021

Report Date 10/10/2021

Procedure	Sieve/Test	Result	Unit	Coarse Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	94.9	%	
	1" (25mm)	40.3	%	
	3/4" (19mm)	11.5	%	
	1/2" (12.5mm)	4.8	%	
	3/8" (9.5mm)	4.0	%	
	#4 (4.75mm)	3.3	%	
	#8 (2.36mm)	2.9	%	
	#16 (1.18mm)	2.7	%	
	#30 (.6mm)	2.4	%	
	#50 (.3mm)	2.3	%	
	#100 (.15mm)	2.1	%	
	#200 (75µm)	1.9	%	
	Wash Loss (#200/75µm)	1.8	%	0-2
	Total Moisture	1.81	%	