

Aggregate Optimization Chart

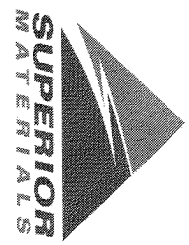
PLANT #: P-101

Sample Date: 4/11/22

Dates Test Represents: 4/12/2022 through 4/18/2022

Concrete Grade: P1M, 3500HP

Contractor: _____
MIDOT No.: _____



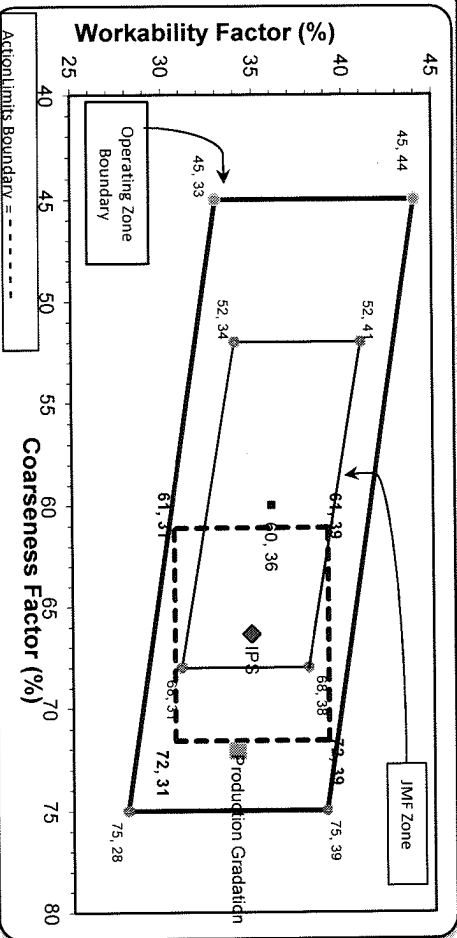
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

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
2NS	75-051	Mid Michigan	1200	7.23	2.66	39.1
		Total Wt	3070			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"	92.0	100.0	100.0	97.2	2.8	2.8
1"	40.9	100.0	100.0	79.4	17.8	20.6
3/4"	7.1	96.8	100.0	66.8	12.6	33.2
1/2"	2.3	74.8	100.0	59.4	7.4	40.6
3/8"	2.2	48.3	100.0	52.4	6.9	47.6
#4	2.2	8.7	98.6	41.6	10.9	58.4
#8	2.1	3.8	82.7	34.0	7.5	66.0
#16	2.1	3.0	68.5	28.3	5.8	71.7
#30	2.1	2.8	53.2	22.3	6.0	77.7
#50	2.0	2.5	28.8	12.6	9.7	87.4
#100	1.8	2.1	8.4	4.5	8.1	95.5
LBW	1.1	1.3	1.1	1.2	3.3	98.8

*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: 72 **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

Coarseness Factor: 66 **Workability Factor:** 35

PREPARED BY:
SM, LLC Technical Service

Approved By: _____



Plant S101-Superior Mount Clemens

Product 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 04/10/2022 - 04/16/2022

Report Date 04/15/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	98.6	%	95-100
	#8 (2.36mm)	82.7	%	65-95
	#16 (1.18mm)	68.5	%	35-75
	#30 (.6mm)	53.2	%	20-55
	#50 (.3mm)	28.8	%	10-30
	#100 (.15mm)	8.4	%	0-10
	#200 (75µm)	1.4	%	
	FM	2.60		2.6-3
	Wash Loss (#200/75um)	1.1	%	0-3
	Total Moisture	3.30	%	



Plant S101-Superior Mount Clemens
 Product 7920-INTERMED AGG P1M LS
 Period: 04/10/2022 - 04/16/2022

Name/Title Doug Storey / QC Technician
 Report Date 04/15/2022

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)	96.8	%	
	1/2" (12.5mm)	74.8	%	
	3/8" (9.5mm)	48.3	%	
	#4 (4.75mm)	8.7	%	
	#8 (2.36mm)	3.8	%	
	#16 (1.18mm)	3.0	%	
	#30 (.6mm)	2.8	%	
	#50 (.3mm)	2.5	%	
	#100 (.15mm)	2.1	%	
	#200 (75µm)	1.6	%	
	Wash Loss (#200/75µm)	1.3	%	0-3
	Total Moisture	2.60	%	



Plant S101-Superior Mount Clemens

Product 7919-COARSE AGG P1M LS

Period: 04/10/2022 - 04/16/2022

Name/Title Doug Storey / QC Technician

Report Date 04/15/2022

Procedure	Sieve/Test	Result	Unit	Coarse Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	92.0	%	
	1" (25mm)	40.9	%	
	3/4" (19mm)	7.1	%	
	1/2" (12.5mm)	2.3	%	
	3/8" (9.5mm)	2.2	%	
	#4 (4.75mm)	2.2	%	
	#8 (2.36mm)	2.1	%	
	#16 (1.18mm)	2.1	%	
	#30 (.6mm)	2.1	%	
	#50 (.3mm)	2.0	%	
	#100 (.15mm)	1.8	%	
	#200 (75µm)	1.5	%	
	Wash Loss (#200/75um)	1.1	%	0-2
	Total Moisture	1.67	%	