

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-02**

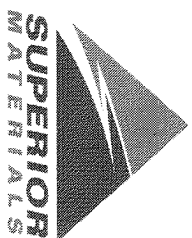
Sample Date: **4/18/22**

Dates Test Represents: **4/19/2022** through **4/25/2022**

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 ³	Specific Gravity	Contribution %
CA	71-47	Presque Isle	970	5.93	2.62	31.6
IA	71-47	Presque Isle	850	5.20	2.62	27.7
NNS	63-115	Ray Rd	1250	7.56	2.65	40.7
Total Wt:			3070	18.69		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"	97.9	100.0	100.0	99.3	0.7	0.7
1"	36.9	100.0	100.0	80.1	19.3	19.9
3/4"	8.3	97.9	100.0	70.4	9.6	29.6
1/2"	2.1	71.1	100.0	61.1	9.4	38.9
3/8"	2.0	45.6	100.0	54.0	7.1	46.0
#4	1.9	9.1	96.0	42.2	11.8	57.8
#8	1.9	4.7	76.4	33.0	9.2	67.0
#16	1.9	3.7	60.5	26.3	6.8	73.7
#30	1.9	3.2	44.7	19.7	6.6	80.3
#50	1.8	2.9	21.7	10.2	9.5	89.8
#100	1.6	2.6	3.5	2.7	7.6	97.3
LBW	1.2	1.8	0.6	1.1	1.5	98.9

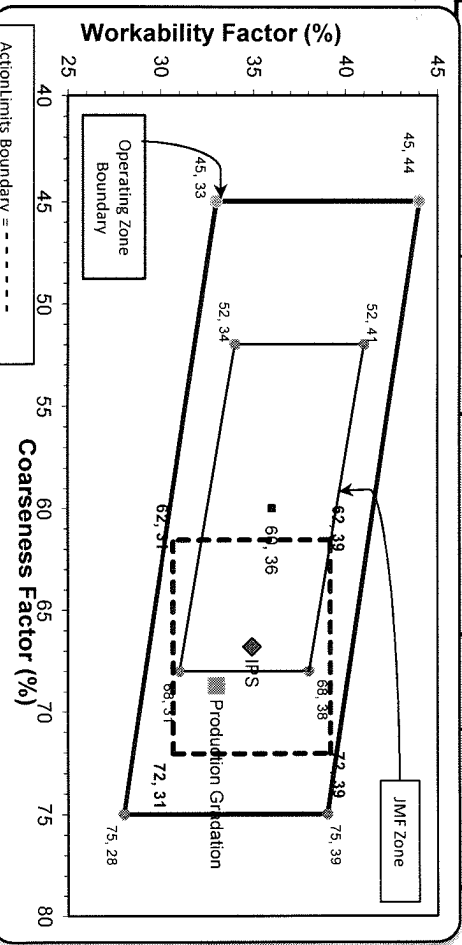
*Maximum % Retained must be above the 3/8" sieve.
*Any two adjacent sieves must equal 10% except max.
nom. max.: #100 and #200 sieves.
**Retained must be at least 4% for each sieve except max.
nom. max.: #100 and #200 sieves.
***Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Initial Production Sample (IPS)

Coarseness Factor: **67**

Workability Factor: **35**



Sieve	% 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: _____



Plant S02-Superior Hoover

Product 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 04/22/2022 - 04/22/2022

Report Date 04/23/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.0	%	95-100
	#8 (2.36mm)	76.4	%	65-95
	#16 (1.18mm)	60.5	%	35-75
	#30 (.6mm)	44.7	%	20-55
	#50 (.3mm)	21.7	%	10-30
	#100 (.15mm)	3.5	%	0-10
	#200 (75µm)	0.6	%	
	FM	2.97		2.6-3
	Wash Loss (#200/75um)	0.6	%	0-3
	Total Moisture	3.98	%	



Plant S02-Superior Hoover

Product 7920-INTERMED AGG P1M LS

Name/Title Doug Storey / QC Technician

Period: 04/22/2022 - 04/22/2022

Report Date 04/23/2022

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)	97.9	%	
	1/2" (12.5mm)	71.1	%	
	3/8" (9.5mm)	45.6	%	
	#4 (4.75mm)	9.1	%	
	#8 (2.36mm)	4.7	%	
	#16 (1.18mm)	3.7	%	
	#30 (.6mm)	3.2	%	
	#50 (.3mm)	2.9	%	
	#100 (.15mm)	2.6	%	
	#200 (75µm)	2.2	%	
	Wash Loss (#200/75um)	1.8	%	0-3
	Total Moisture	2.41	%	



Plant S02-Superior Hoover

Product 7919-COARSE AGG P1M LS

Name/Title Doug Storey / QC Technician

Period: 04/22/2022 - 04/22/2022

Report Date 04/23/2022

Procedure	Sieve/Test	Result	Unit	Coarse Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	97.9	%	
	1" (25mm)	36.9	%	
	3/4" (19mm)	8.3	%	
	1/2" (12.5mm)	2.1	%	
	3/8" (9.5mm)	2.0	%	
	#4 (4.75mm)	1.9	%	
	#8 (2.36mm)	1.9	%	
	#16 (1.18mm)	1.9	%	
	#30 (.6mm)	1.9	%	
	#50 (.3mm)	1.8	%	
	#100 (.15mm)	1.6	%	
	#200 (75µm)	1.4	%	
	Wash Loss (#200/75um)	1.2	%	0-2
	Total Moisture	1.33	%	