

Aggregate Optimization Chart

PLANT #: **P-12**

Sample Date: **8/3/20**

Dates Test Represents: **8/4/2020** through **8/10/2020**

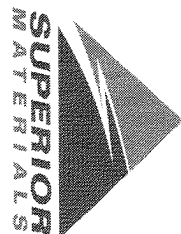
Concrete Grade: **P1M**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
CA	71-47	Presque Isle	820	5.02	2.62	26.7
IA	71-47	Presque Isle	1000	6.12	2.62	32.6
2NS	63-115	Ray Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		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"	100.0	100.0	100.0	100.0	0.0	0.0
1"	43.8	100.0	100.0	85.0	15.0	15.0
3/4"	15.2	99.0	100.0	77.0	8.0	23.0
1/2"	6.8	78.0	100.0	67.9	9.1	32.1
3/8"	4.0	53.0	100.0	59.0	8.9	41.0
#4	2.9	13.0	98.6	45.2	13.9	54.8
#8	2.6	5.5	80.4	35.2	9.9	64.8
#16	2.5	4.0	62.0	27.2	8.0	72.8
#30	2.4	3.6	45.3	20.3	7.0	79.7
#50	2.2	3.2	21.0	10.2	10.1	89.8
#100	2.1	2.7	4.1	3.1	7.1	96.9
LBW	1.6	2.0	0.7	1.4	1.7	98.6

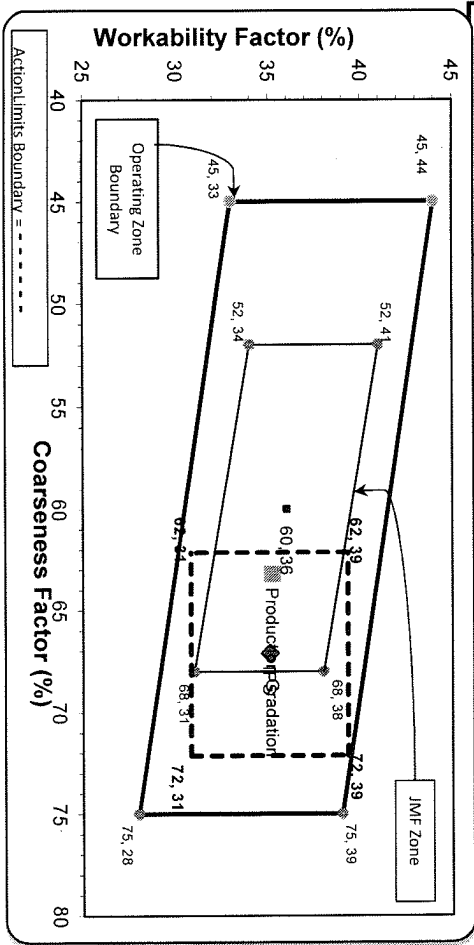


Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

*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: **63** 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"	83.9	15.7	16.1
3/4"	74.0	9.8	26.0
1/2"	63.7	10.3	36.3
3/8"	56.4	7.3	43.6
#4	43.0	13.4	57.0
#8	35.1	7.9	64.9
#16	29.0	6.1	71.0
#30	20.9	8.0	79.1
#50	8.1	12.8	91.9
#100	1.6	6.5	98.4
LBW	0.9	0.8	99.1

Coarseness Factor: **67** Workability Factor: **35**

PREPARED BY:
 SM, LLC Technical Service

Approved By: _____



Basic Quality Statistical Summary Report

Plant S38-Superior On-site
Product 7920-INTERMED AGG P1M LS
Specification Intermed Agg P1M LS Target
Period 08/02/2020 - 08/08/2020

Sieve/Test	Tests	Average	St Dev	Target	Specification
2" (50mm)	1	100.0			
1 1/2" (37.5mm)	1	100.0			
1" (25mm)	1	100.0		100-100	
3/4" (19mm)	1	99.3			
1/2" (12.5mm)	1	78.2			
3/8" (9.5mm)	1	53.3			
#4 (4.75mm)	1	13.4			
#8 (2.36mm)	1	5.5			
#16 (1.18mm)	1	4.0			
#30 (.6mm)	1	3.6			
#50 (.3mm)	1	3.2			
#100 (.15mm)	1	2.7			
#200 (75µm)	1	2.2		0-3	
Pan	1	0.0			
Wash Loss (#200/75um)	1	2.0			0-3
Total Moisture	1	3.45			



Basic Quality Statistical Summary Report

Plant S38-Superior On-site
Product 7919-COARSE AGG P1M LS
Specification Coarse Agg P1M LS Target
Period 08/02/2020 - 08/08/2020

Sieve/Test	Tests	Average	St Dev	Target	Specification
2" (50mm)	1	100.0		100-100	
1 1/2" (37.5mm)	1	100.0			
1" (25mm)	1	43.8			
3/4" (19mm)	1	15.2			
1/2" (12.5mm)	1	6.8			
3/8" (9.5mm)	1	4.0			
#4 (4.75mm)	1	2.9			
#8 (2.36mm)	1	2.6			
#16 (1.18mm)	1	2.5			
#30 (.6mm)	1	2.4			
#50 (.3mm)	1	2.2			
#100 (.15mm)	1	2.1			
#200 (75µm)	1	1.7		0-2	
Pan	1	0.0			
Wash Loss (#200/75um)	1	1.6			0-2
Total Moisture	1	1.76			



Basic Quality Statistical Summary Report

Plant S38-Superior On-site
Product 1022-2NS GR
Specification 2NS GR Spec
Period 08/02/2020 - 08/08/2020

Sieve/Test	Tests	Average	St Dev	Target	Specification
3/8" (9.5mm)	1	100.0			100-100
#4 (4.75mm)	1	98.5			95-100
#8 (2.36mm)	1	79.9			65-95
#16 (1.18mm)	1	62.0			35-75
#30 (.6mm)	1	44.6		40-50	20-55
#50 (.3mm)	1	22.2			10-30
#100 (.15mm)	1	6.0			0-10
#200 (75µm)	1	1.2			
Pan	1	0.0			
FM	1	2.87		2.7-2.9	2.6-3
Wash Loss (#200/75um)	1	1.2			0-3
Total Moisture	1	3.52			