

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-39

Sample Date: 1/13/20

Dates Test Represents: 1/14/2020 through 1/20/2020

Concrete Grade: S2M

Contractor:

MDOT No.:

Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1650	10.09	2.62	54.1
26A	71-47	Presque Isle	200	1.22	2.62	6.6
2NS	63-92	Grange Hall	1200	7.26	2.65	39.3
Total Wt			3050	18.57		100.0

Sieve	6AA	26A	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"	98.2	100.0	100.0	99.0	1.0	1.0
3/4"	90.1	100.0	100.0	94.6	4.4	5.4
1/2"	50.7	96.4	100.0	73.1	21.6	26.9
3/8"	31.7	85.7	100.0	62.1	11.0	37.9
#4	6.5	25.1	97.5	43.5	18.6	56.5
#8	3.0	8.4	85.8	35.9	7.6	64.1
#16	2.7	4.7	71.7	30.0	6.0	70.0
#30	2.6	3.8	54.7	23.2	6.8	76.8
#50	2.4	3.5	25.8	11.7	11.5	88.3
#100	2.3	3.2	5.2	3.5	8.2	96.5
LBW	2.0	2.8	1.2	1.7	1.8	98.3

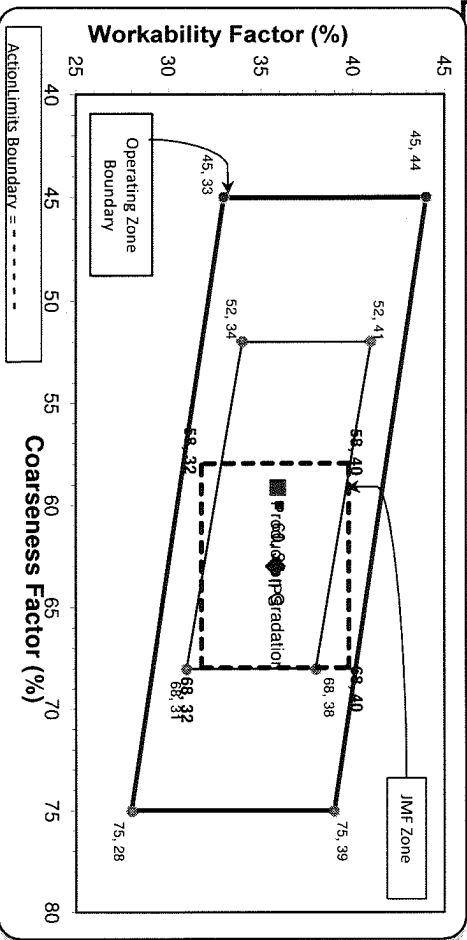


Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

*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: 59 Workability Factor: 36



Initial Production Sample (IPS)

Sieve	Coarseness Factor:	Workability Factor:	% Retained	Cumulative % Retained
2"	63	36	0.0	0.0
1.5"			0.0	0.0
1"			0.0	0.0
3/4"			0.2	10.2
1/2"			19.1	29.3
3/8"			11.1	40.4
#4			16.4	56.8
#8			7.4	64.2
#16			6.6	70.8
#30			7.8	78.6
#50			11.6	90.2
#100			6.1	96.3
LBW			2.5	98.8

PREPARED BY:
SM, LLC Technical Service

Approved By:



Plant S39-Superior Sterling Heights

Product 1051-6AA LS

Name/Title Doug Storey / QC Technician

Period: 01/12/2020 - 01/18/2020

Report Date 01/17/2020

Procedure	Sieve/Test	Result	Unit	6AA LS
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	98.2	%	95-100
	3/4" (19mm)	90.1	%	
	1/2" (12.5mm)	50.7	%	30-60
	3/8" (9.5mm)	31.7	%	
	#4 (4.75mm)	6.5	%	0-8
	#8 (2.36mm)	3.0	%	
	#16 (1.18mm)	2.7	%	
	#30 (0.6mm)	2.6	%	
	#50 (0.3mm)	2.4	%	
	#100 (0.15mm)	2.3	%	
	#200 (75µm)	2.10	%	
	Wash Loss (#200/75µm)	2.0	%	0-2
	Total Moisture	3.54	%	



Plant S39-Superior Sterling Heights

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 01/12/2020 - 01/18/2020

Report Date 01/17/2020

Procedure	Sieve/Test	Result	Unit	26A LS Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	
	1" (25mm)	100.0	%	
	3/4" (19mm)	100.0	%	100-100
	1/2" (12.5mm)	96.4	%	95-100
	3/8" (9.5mm)	85.7	%	60-95
	#4 (4.75mm)	25.1	%	5-30
	#8 (2.36mm)	8.4	%	0-12
	#16 (1.18mm)	4.7	%	
	#30 (0.6mm)	3.8	%	
	#50 (0.3mm)	3.5	%	
	#100 (0.15mm)	3.2	%	
	#200 (75µm)	2.9	%	
	Wash Loss (#200/75µm)	2.8	%	0-3
	Total Moisture	4.26	%	



Plant S39-Superior Sterling Heights

Product 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 01/12/2020 - 01/18/2020

Report Date 01/17/2020

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	97.5	%	95-100
	#8 (2.36mm)	85.8	%	65-95
	#16 (1.18mm)	71.7	%	35-75
	#30 (0.6mm)	54.7	%	20-55
	#50 (0.3mm)	25.8	%	10-30
	#100 (0.15mm)	5.2	%	0-10
	#200 (75µm)	1.3	%	
	FM	2.59		2.6-3
	Wash Loss (#200/75um)	1.2	%	0-3
	Total Moisture	3.70	%	