

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-32

Sample Date: 2/13/23

Dates Test Represents: 2/14/2023 through 2/20/2023

Concrete Grade: DM 4500HP

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1405	8.59	2.62	48.4
26A	71-47	Presque Isle	350	2.14	2.62	12.0
2NS	95-013	Smelter Bay	1150	6.95	2.65	39.6
Total Wt.						17.69
						100.0

Verify this number is 100%

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"	99.3	100.0	100.0	99.7	0.3	0.3
3/4"	79.2	100.0	100.0	89.9	9.7	10.1
1/2"	32.6	97.2	100.0	67.1	22.9	32.9
3/8"	17.0	85.8	100.0	58.1	8.9	41.9
#4	3.9	18.4	95.6	41.9	16.2	58.1
#8	2.7	5.7	82.7	34.7	7.2	65.3
#16	2.4	3.2	67.9	28.4	6.3	71.6
#30	2.3	2.6	49.5	21.0	7.4	79.0
#50	2.2	2.4	24.1	10.9	10.1	89.1
#100	2.0	2.2	7.0	4.0	6.9	96.0
LBW	1.6	1.8	1.2	1.5	2.5	98.5

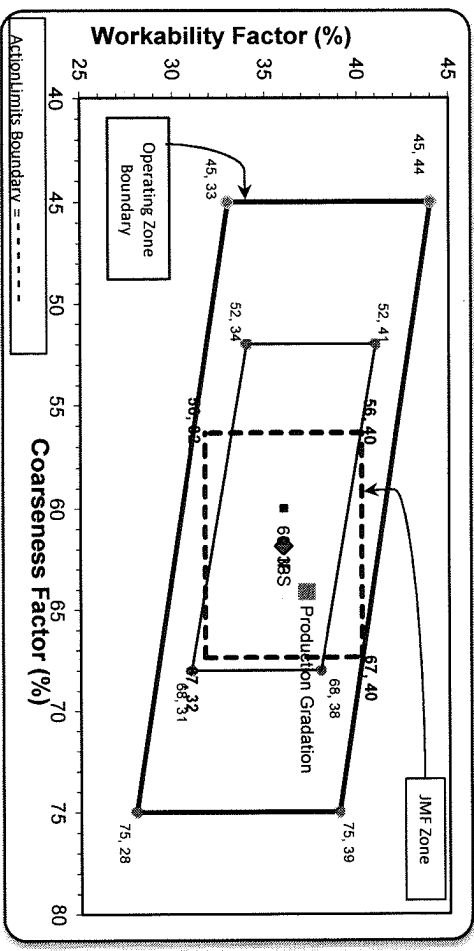
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max.
 nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max.
 nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when
 a 2" max. size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

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

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 64 Workability Factor: 35 Adjusted WF: 37.2

Initial Production Sample (IPS)
 Coarseness Factor: 62 Workability Factor: 36



Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	100.0	0.0	0.0
3/4"	95.0	5.0	5.0
1/2"	72.3	22.8	27.7
3/8"	60.4	11.8	39.6
#4	42.6	17.8	57.4
#8	36.0	6.6	64.0
#16	29.5	6.5	70.5
#30	20.3	9.2	79.7
#50	9.5	10.8	90.5
#100	3.4	6.1	96.6
LBW	1.3	2.1	98.7

PREPARED BY:
 SM, LLC Technical Service

Approved By: _____

Edw. C. Levy Co.

JMT
 8911 W. Jefferson
 Detroit, 48209
 (313) 429-2429

Plant 958-JMT

Product 1054-6AA LS PI

Period: 02/12/2023 - 02/18/2023

Name/Title Doug Storey / QC Technician

Report Date 02/18/2023

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	99.3	%	95-100
	3/4" (19mm)	79.2	%	
	1/2" (12.5mm)	32.6	%	30-60
	3/8" (9.5mm)	17.0	%	
	#4 (4.75mm)	3.9	%	0-8
	#8 (2.36mm)	2.7	%	
	#16 (1.18mm)	2.4	%	
	#30 (.6mm)	2.3	%	
	#50 (.3mm)	2.2	%	
	#100 (.15mm)	2.0	%	
	#200 (75µm)	1.7	%	
	Wash Loss (#200/75µm)	1.6	%	0-2
	Total Moisture	1.6	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 02/12/2023 - 02/18/2023

Report Date 02/18/2023

Procedure	Sieve/Test	Result	Unit	26A Mod 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)	97.2	%	95-100
	3/8" (9.5mm)	85.8	%	60-95
	#4 (4.75mm)	18.4	%	5-30
	#8 (2.36mm)	5.7	%	0-12
	#16 (1.18mm)	3.2	%	
	#30 (.6mm)	2.6	%	
	#50 (.3mm)	2.4	%	
	#100 (.15mm)	2.2	%	
	#200 (75µm)	2.0	%	
	Wash Loss (#200/75um)	1.8	%	0-3
	Total Moisture	2.8	%	

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Doug Storey / QC Technician

Period: 02/12/2023 - 02/18/2023

Report Date 02/18/2023

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	95.6	%	95-100
	#8 (2.36mm)	82.7	%	65-95
	#16 (1.18mm)	67.9	%	35-75
	#30 (.6mm)	49.5	%	20-55
	#50 (.3mm)	24.1	%	10-30
	#100 (.15mm)	7.0	%	0-10
	#200 (75µm)	1.5	%	
	FM	2.73		2.6-3
	Wash Loss (#200/75um)	1.2	%	0-3
	Total Moisture	3.1	%	