

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-32**

Sample Date: 8/2/21

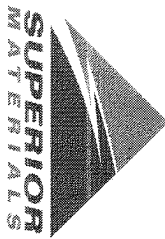
Dates Test Represents: 8/3/2021

through 8/9/2021

Concrete Grade: **DM**

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 %	
6AA	71-47	Presque Isle	1550	9.48	2.62	53.4	
26A	71-47	Presque Isle	205	1.25	2.62	7.1	
ZNS	95-013	Smeller Bay	1150	6.95	2.65	39.6	
Total Wt						2905	100.0

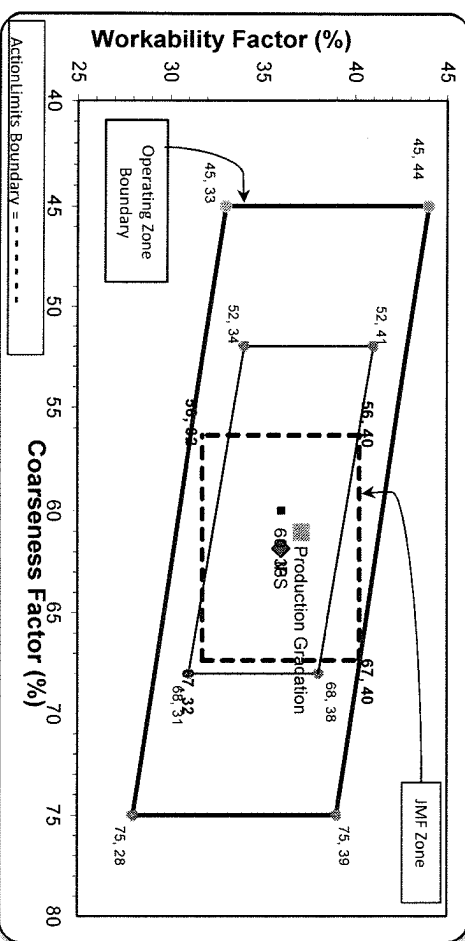
Sieve	6AA	26A	ZNS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	96.5	100.0	100.0	98.1	1.9	1.9
3/4"	82.0	100.0	100.0	90.4	7.7	9.6
1/2"	46.5	96.4	100.0	71.2	19.2	28.8
3/8"	26.7	88.5	100.0	60.1	11.1	39.9
#4	5.8	19.2	96.5	42.7	17.4	57.3
#8	2.5	4.6	83.2	34.6	8.1	65.4
#16	2.1	2.1	66.8	27.7	6.9	72.3
#30	2.0	1.6	47.8	20.1	7.6	79.9
#50	1.9	1.5	22.7	10.1	10.0	89.9
#100	1.8	1.4	5.7	3.3	6.8	96.7
LBW	1.4	1.1	1.0	1.2	2.1	98.8

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor: **61** Workability Factor: **35**

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

*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. 1.5") aggregate is used.

PREPARED BY:
SM, LLC Technical Service

Approved By:

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Doug Storey / QC Technician

Period: 08/01/2021 - 08/07/2021

Report Date 08/06/2021

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.5	%	95-100
	#8 (2.36mm)	83.2	%	65-95
	#16 (1.18mm)	66.8	%	35-75
	#30 (.6mm)	47.8	%	20-55
	#50 (.3mm)	22.7	%	10-30
	#100 (.15mm)	5.7	%	0-10
	#200 (75µm)	1.3	%	
	FM	2.77		2.6-3
	Wash Loss (#200/75um)	1.0	%	0-3
	Total Moisture	4.5	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 08/01/2021 - 08/07/2021

Report Date 08/06/2021

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)	96.4	%	95-100
	3/8" (9.5mm)	88.5	%	60-95
	#4 (4.75mm)	19.2	%	5-30
	#8 (2.36mm)	4.6	%	0-12
	#16 (1.18mm)	2.1	%	
	#30 (.6mm)	1.6	%	
	#50 (.3mm)	1.5	%	
	#100 (.15mm)	1.4	%	
	#200 (75µm)	1.2	%	
	Wash Loss (#200/75um)	1.1	%	0-3
	Total Moisture	3.0	%	

Plant 958-JMT

Product 1054-6AA LS PI

Name/Title Doug Storey / QC Technician

Period: 08/01/2021 - 08/07/2021

Report Date 08/06/2021

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	96.5	%	95-100
	3/4" (19mm)	82.0	%	
	1/2" (12.5mm)	46.5	%	30-60
	3/8" (9.5mm)	26.7	%	
	#4 (4.75mm)	5.8	%	0-8
	#8 (2.36mm)	2.5	%	
	#16 (1.18mm)	2.1	%	
	#30 (.6mm)	2.0	%	
	#50 (.3mm)	1.9	%	
	#100 (.15mm)	1.8	%	
	#200 (75µm)	1.6	%	
	Wash Loss (#200/75um)	1.4	%	0-2
	Total Moisture	2.1	%	