

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-32**

Sample Date: **11/8/21**

Dates Test Represents: **11/9/2021** through **11/15/2021**

Concrete Grade: **DM**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1455	8.90	2.62	50.1
26A	71-47	Presque Isle	300	1.83	2.62	10.3
2NS	95-013	Smelter Bay	1150	6.95	2.65	39.6
Total Wt						17.69
						100.0

<----- Verify this number is 100%

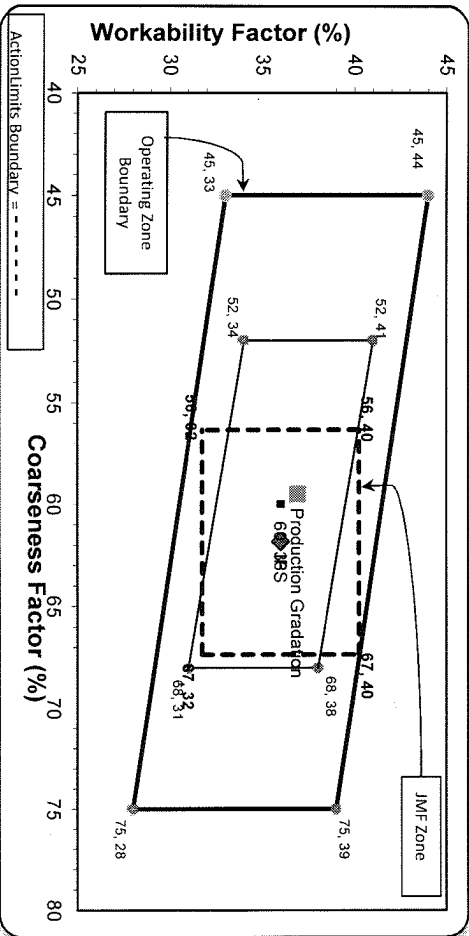
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	97.8	100.0	100.0	98.9	1.1	1.1
3/4"	78.3	100.0	100.0	89.1	9.8	10.9
1/2"	41.5	95.8	100.0	70.3	18.9	29.7
3/8"	25.7	82.3	100.0	61.0	9.3	39.0
#4	5.0	16.9	95.7	42.1	18.8	57.9
#8	2.6	4.7	82.4	34.4	7.7	65.6
#16	2.2	2.5	66.9	27.8	6.6	72.2
#30	2.0	2.1	48.0	20.2	7.6	79.8
#50	1.9	1.9	24.9	11.0	9.2	89.0
#100	1.8	1.8	7.7	4.1	6.9	95.9
LBW	1.2	1.5	2.0	1.5	2.6	98.5

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Initial Production Sample (IPS)

Coarseness Factor: **60** Workability Factor: **34** Adjusted W/F: **36.9**

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

SUPERIOR MATERIALS
 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.

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Doug Storey / QC Technician

Period: 11/07/2021 - 11/13/2021

Report Date 11/11/2021

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	95.7	%	95-100
	#8 (2.36mm)	82.4	%	65-95
	#16 (1.18mm)	66.9	%	35-75
	#30 (.6mm)	48.0	%	20-55
	#50 (.3mm)	24.9	%	10-30
	#100 (.15mm)	7.7	%	0-10
	#200 (75µm)	2.4	%	
	FM	2.74		2.6-3
	Wash Loss (#200/75um)	2.0	%	0-3
	Total Moisture	4.0	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 11/07/2021 - 11/13/2021

Report Date 11/13/2021

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)	95.8	%	95-100
	3/8" (9.5mm)	82.3	%	60-95
	#4 (4.75mm)	16.9	%	5-30
	#8 (2.36mm)	4.7	%	0-12
	#16 (1.18mm)	2.5	%	
	#30 (.6mm)	2.1	%	
	#50 (.3mm)	1.9	%	
	#100 (.15mm)	1.8	%	
	#200 (75µm)	1.6	%	
	Wash Loss (#200/75um)	1.5	%	0-3
	Total Moisture	3.6	%	

Plant 958-JMT

Product 1054-6AA LS PI

Name/Title Doug Storey / QC Technician

Period: 11/07/2021 - 11/13/2021

Report Date 11/13/2021

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	97.8	%	95-100
	3/4" (19mm)	78.3	%	
	1/2" (12.5mm)	41.5	%	30-60
	3/8" (9.5mm)	25.7	%	
	#4 (4.75mm)	5.0	%	0-8
	#8 (2.36mm)	2.6	%	
	#16 (1.18mm)	2.2	%	
	#30 (.6mm)	2.0	%	
	#50 (.3mm)	1.9	%	
	#100 (.15mm)	1.8	%	
	#200 (75µm)	1.5	%	
	Wash Loss (#200/75um)	1.2	%	0-2
	Total Moisture	3.1	%	