

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-32**

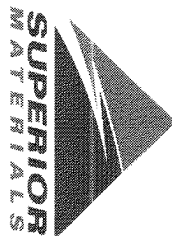
Sample Date: **4/19/21**

Dates Test Represents: **4/20/2021** through **4/26/2021**

Concrete Grade: **S2M**

Contractor: _____

MDOT No.: _____



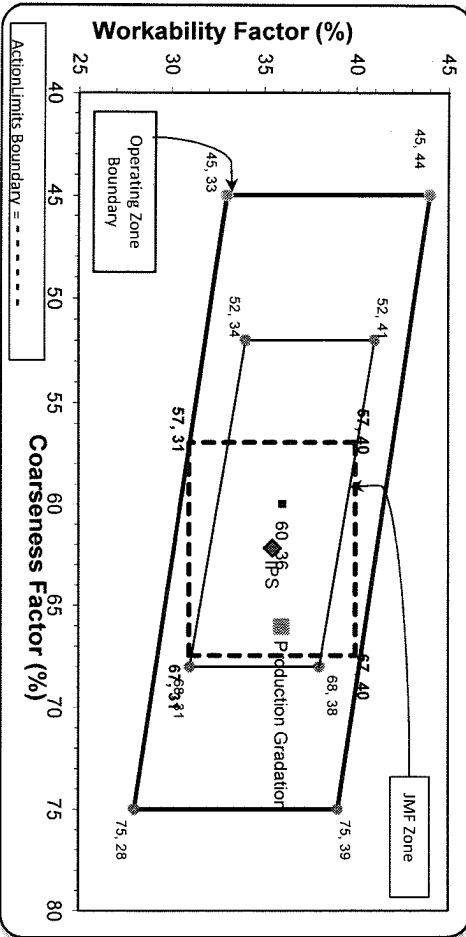
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1620	9.91	2.62	53.1
26A	71-47	Presque Isle	200	1.22	2.62	6.6
2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3
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"	98.6	100.0	100.0	99.3	0.7	0.7
3/4"	88.1	100.0	100.0	93.7	5.6	6.3
1/2"	38.6	95.5	100.0	67.1	26.6	32.9
3/8"	22.4	83.6	100.0	57.7	9.4	42.3
#4	5.4	29.3	96.5	43.7	14.0	56.3
#8	2.2	10.2	84.6	36.0	7.8	64.0
#16	1.6	4.8	68.4	28.7	7.2	71.3
#30	1.6	3.4	47.9	20.4	8.4	79.6
#50	1.4	2.8	20.5	9.2	11.2	90.8
#100	1.2	2.3	4.4	2.6	6.6	97.4
LBW	1.0	1.8	1.0	1.1	1.5	98.9

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **66** Workability Factor: **36**



Initial Production Sample (IPS)

Coarseness Factor: **62** Workability Factor: **35**

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"	94.0	6.0	6.0
1/2"	70.2	23.7	29.8
3/8"	59.9	10.4	40.1
#4	42.7	17.2	57.3
#8	35.5	7.2	64.5
#16	28.4	7.0	71.6
#30	19.2	9.2	80.8
#50	8.9	10.3	91.1
#100	3.1	5.9	96.9
LBW	1.4	1.7	98.6

*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
Period: 04/18/2021 - 04/24/2021

Name/Title Doug Storey / QC Technician
Report Date 04/23/2021

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)	84.6	%	65-95
	#16 (1.18mm)	68.4	%	35-75
	#30 (.6mm)	47.9	%	20-55
	#50 (.3mm)	20.5	%	10-30
	#100 (.15mm)	4.4	%	0-10
	#200 (75µm)	1.2	%	
	FM	2.78		2.6-3
	Wash Loss (#200/75um)	1.0	%	0-3
	Total Moisture	3.2	%	

Plant 958-JMT
 Product 7920-INTERMED AGG P1M LS PI
 Period: 04/18/2021 - 04/24/2021

Name/Title Doug Storey / QC Technician
 Report Date 04/23/2021

Procedure	Sieve/Test	Result	Unit	Intermed Agg P1M LS PI Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	
	1" (25mm)	100.0	%	
	3/4" (19mm)	98.8	%	
	1/2" (12.5mm)	84.3	%	
	3/8" (9.5mm)	62.6	%	
	#4 (4.75mm)	14.8	%	
	#8 (2.36mm)	6.3	%	
	#16 (1.18mm)	3.9	%	
	#30 (.6mm)	3.1	%	
	#50 (.3mm)	2.7	%	
	#100 (.15mm)	2.3	%	
	#200 (75µm)	2.0	%	
	Wash Loss (#200/75um)	1.7	%	0-3
	Total Moisture	3.3	%	

Plant 958-JMT
 Product 7919-COARSE AGG P1M LS PI Name/Title Doug Storey / QC Technician
 Period: 04/18/2021 - 04/24/2021 Report Date 04/23/2021

Procedure	Sieve/Test	Result	Unit	Coarse Agg P1M LS PI Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	94.4	%	
	1" (25mm)	39.5	%	
	3/4" (19mm)	10.0	%	
	1/2" (12.5mm)	3.5	%	
	3/8" (9.5mm)	2.8	%	
	#4 (4.75mm)	2.5	%	
	#8 (2.36mm)	2.3	%	
	#16 (1.18mm)	2.2	%	
	#30 (.6mm)	2.1	%	
	#50 (.3mm)	2.1	%	
	#100 (.15mm)	1.9	%	
	#200 (75µm)	1.7	%	
	Wash Loss (#200/75um)	1.6	%	0-2
	Total Moisture	1.8	%	