

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-32**

Sample Date: 1/11/21

Dates Test Represents: 1/12/2021 through 1/18/2021

Concrete Grade: **P1M**

Contractor: _____

MDOT No.: _____



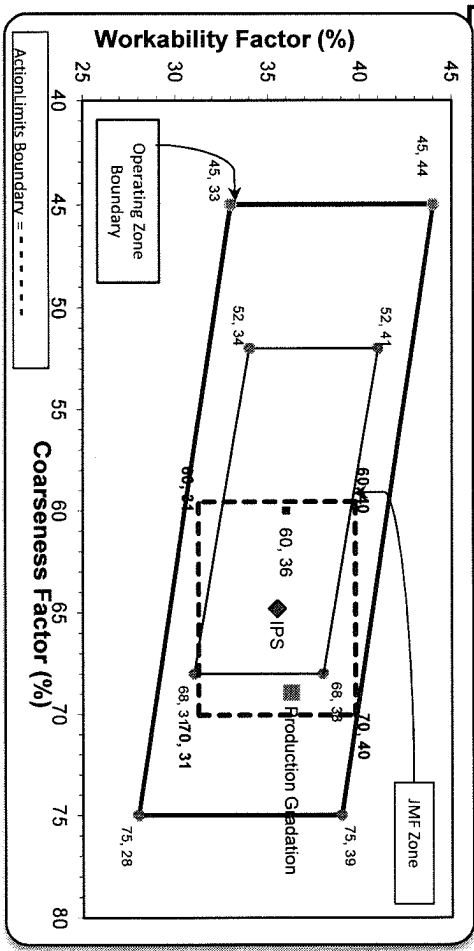
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
CA	71-47	Presque Isle	1000	6.12	2.62	32.6
IA	71-47	Presque Isle	820	5.02	2.62	26.7
ZNS	95-013	Smelter Bay	1250	7.56	2.65	40.7
		Total Wt	3070	18.69		100.0

Sieve	CA	IA	ZNS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	95.9	100.0	100.0	98.7	1.3	1.3
1"	41.8	100.0	100.0	81.0	17.6	19.0
3/4"	13.8	98.4	100.0	71.5	9.5	28.5
1/2"	5.8	74.6	100.0	62.5	9.0	37.5
3/8"	5.2	51.1	100.0	56.1	6.5	43.9
#4	3.9	11.4	96.3	43.5	12.5	56.5
#8	3.8	5.2	82.6	36.3	7.3	63.7
#16	3.6	4.0	66.4	29.3	7.0	70.7
#30	3.4	3.6	43.2	19.7	9.6	80.3
#50	3.3	3.4	18.1	9.4	10.3	90.6
#100	3.1	3.1	4.3	3.6	5.8	96.4
LBW	2.6	2.3	1.5	2.1	1.5	97.9

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **69** Workability Factor: **36**



Initial Production Sample (IPS)

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.0	0.6	0.6
1"	84.0	15.3	16.0
3/4"	73.5	10.5	26.5
1/2"	65.2	8.2	34.8
3/8"	58.2	7.1	41.8
#4	44.1	14.1	55.9
#8	35.5	8.6	64.5
#16	29.1	6.4	70.9
#30	21.9	7.3	78.1
#50	9.6	12.2	90.4
#100	2.6	7.1	97.4
LBW	1.0	1.6	99.0

Coarseness Factor: **65** Workability Factor: **36**

*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: _____

Edw. C. Levy Co.

Quality Test Report

Plant 958-JMT
 Product 7919-COARSE AGG P1M LS PI
 Specification Coarse Agg P1M LS PI Target



-674922257

Sample Information

Sample No -674922257
 Date Sampled 01/15/2021 12:18
 Sampled By Casey Smith
 Type QA
 Method Stockpile

Split Sample
 Resample

Gradation Results

Date Completed 01/15/2021 12:18

Tested By Casey Smith

Unit	Moist Mass	Dry Mass	Wash Mass	Moisture %	Wash Loss %	Procedure
g	5997.00	5901.00	5797.00	1.6	1.8	

Sieve	Mass Retained	Cum Mass Retained	Ind % Retained	% Retained	% Passing	Target	Specification	Comment
2" (50mm)	0.00	0.00	0.0	0.0	100.0	100-100		
1 1/2" (37.5mm)	306.00	306.00	5.2	5.2	94.8	93-100		
1" (25mm)	3528.00	3834.00	59.8	65.0	35.0	35-55		
3/4" (19mm)	1473.00	5307.00	25.0	89.9	10.1	8-24		
1/2" (12.5mm)	390.00	5697.00	6.6	96.5	3.5	0-6		
3/8" (9.5mm)	13.00	5710.00	0.2	96.8	3.2	0-5		
#4 (4.75mm)	22.00	5732.00	0.4	97.1	2.9	0-3		
#8 (2.36mm)	9.00	5741.00	0.2	97.3	2.7			
#16 (1.18mm)	7.00	5748.00	0.1	97.4	2.6			
#30 (.6mm)	7.00	5755.00	0.1	97.5	2.5			
#50 (.3mm)	8.00	5763.00	0.1	97.7	2.3			
#100 (.15mm)	7.00	5770.00	0.1	97.8	2.2			
#200 (75µm)	23.00	5793.00	0.4	98.2	1.8	0-2		
Pan	4.00	5797.00	1.8	100.0	0.0			

Other Test Results

Test Name	Date	Result	Unit	Target	Specification	Comment
	Procedure	Lab			Tested By	
Total Moisture	01/15/2021 12:18	1.6	%		Casey Smith	
Wash Loss (#200/75um)	01/15/2021 12:18	1.8	%		0-2	
		JMT			Casey Smith	

Plant 958-JMT
 Product 7920-INTERMED AGG P1M LS PI
 Period: 01/10/2021 - 01/16/2021

Name/Title Doug Storey / QC Technician
 Report Date 01/15/2021

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)	98.4	%	
	1/2" (12.5mm)	74.6	%	
	3/8" (9.5mm)	51.1	%	
	#4 (4.75mm)	11.4	%	
	#8 (2.36mm)	5.2	%	
	#16 (1.18mm)	4.0	%	
	#30 (.6mm)	3.6	%	
	#50 (.3mm)	3.4	%	
	#100 (.15mm)	3.1	%	
	#200 (75µm)	2.5	%	
	Wash Loss (#200/75um)	2.3	%	0-3
	Total Moisture	3.2	%	

Edw. C. Levy Co.

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

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Doug Storey / QC Technician

Period: 01/10/2021 - 01/16/2021

Report Date 01/15/2021

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.3	%	95-100
	#8 (2.36mm)	82.6	%	65-95
	#16 (1.18mm)	66.4	%	35-75
	#30 (.6mm)	43.2	%	20-55
	#50 (.3mm)	18.1	%	10-30
	#100 (.15mm)	4.3	%	0-10
	#200 (75µm)	1.5	%	
	FM	2.89		2.6-3
	Wash Loss (#200/75um)	1.5	%	0-3
	Total Moisture	4.7	%	