

Aggregate Optimization Chart

PLANT #: P-32

Sample Date: 1/12/2020

Dates Test Represents: 1/12/24/2020 through 1/13/30/2020

Concrete Grade: P1M

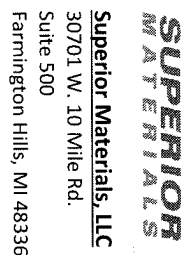
Contractor:

MIDOT No.:

Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
CA	71-47	Presque Isle	920	5.63	2.62	30.0
IA	71-47	Presque Isle	900	5.50	2.62	29.3
2NS	95-013	Smelter Bay	1250	7.56	2.65	40.7
Total Wt			3070			100.0

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	94.9	100.0	100.0	98.5	1.5	1.5
1"	45.2	100.0	100.0	83.6	14.9	16.4
3/4"	15.8	100.0	100.0	74.2	9.3	25.8
1/2"	4.3	100.0	100.0	64.4	9.8	35.6
3/8"	2.0	56.7	100.0	57.9	6.5	42.1
#4	1.9	14.1	95.6	43.6	14.3	56.4
#8	1.9	4.6	83.3	35.8	7.8	64.2
#16	1.8	2.8	67.8	29.0	6.9	71.0
#30	1.7	2.4	47.3	20.5	8.5	79.5
#50	1.7	2.4	27.0	12.2	8.3	87.8
#100	1.6	2.4	7.2	4.1	8.1	95.9
LBW	1.3	1.7	1.3	1.4	2.7	98.6

Verify this number is 100%

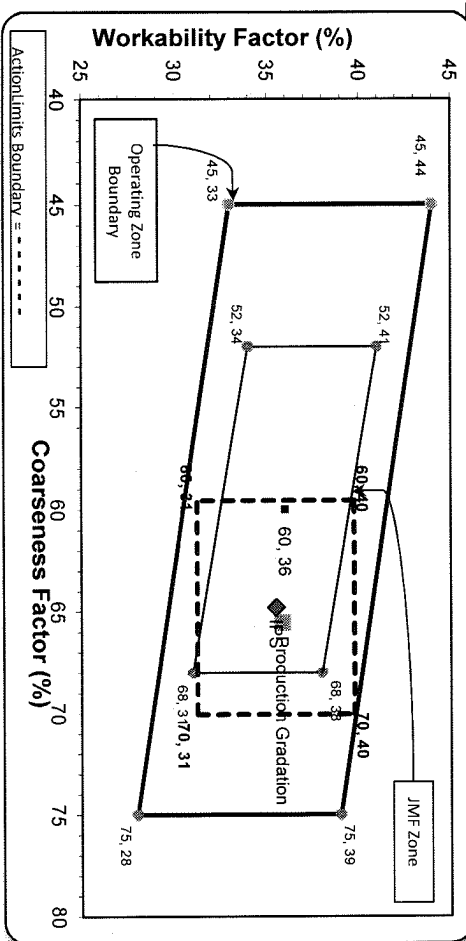


Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

*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.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 66 Workability Factor: 36



Initial Production Sample (IPS)

Sieve	Coarseness Factor:	Workability Factor:	% Passing	% Retained	Cumulative % Retained
2"	65	36	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

PREPARED BY:
SM, LLC Technical Service

Approved By:

Edw. C. Levy Co.

Plant 958-JMT
 Product 7919-COARSE AGG P1M LS PI
 Period: 11/22/2020 - 11/28/2020

Name/Title Doug Storey / QC Technician
 Report Date 11/26/2020

Procedure	Sieve/Test	Result	Unit	Coarse Agg P1M LS PI Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	94.9	%	
	1" (25mm)	45.2	%	
	3/4" (19mm)	15.8	%	
	1/2" (12.5mm)	4.3	%	
	3/8" (9.5mm)	2.0	%	
	#4 (4.75mm)	1.9	%	
	#8 (2.36mm)	1.9	%	
	#16 (1.18mm)	1.8	%	
	#30 (.6mm)	1.7	%	
	#50 (.3mm)	1.7	%	
	#100 (.15mm)	1.6	%	
	#200 (75µm)	1.4	%	
	Wash Loss (#200/75um)	1.3	%	0-2
	Total Moisture	2.4	%	

Edw. C. Levy Co.

Plant 958-JMT
 Product 7920-INTERMED AGG P1M LS PI
 Period: 11/22/2020 - 11/28/2020

Name/Title Doug Storey / QC Technician
 Report Date 11/26/2020

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)	98.2	%	
	1/2" (12.5mm)	76.5	%	
	3/8" (9.5mm)	56.7	%	
	#4 (4.75mm)	14.1	%	
	#8 (2.36mm)	4.6	%	
	#16 (1.18mm)	2.8	%	
	#30 (.6mm)	2.4	%	
	#50 (.3mm)	2.4	%	
	#100 (.15mm)	2.4	%	
	#200 (75µm)	2.0	%	
	Wash Loss (#200/75um)	1.7	%	0-3
	Total Moisture	2.7	%	

Edw. C. Levy Co.

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Doug Storey / QC Technician

Period: 11/22/2020 - 11/28/2020

Report Date 11/26/2020

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)	83.3	%	65-95
	#16 (1.18mm)	67.8	%	35-75
	#30 (.6mm)	47.3	%	20-55
	#50 (.3mm)	27.0	%	10-30
	#100 (.15mm)	7.2	%	0-10
	#200 (75µm)	1.7	%	
	FM	2.72		2.6-3
	Wash Loss (#200/75um)	1.3	%	0-3
	Total Moisture	6.0	%	