

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-32

Sample Date: 11/9/20

Dates Test Represents: 11/10/2020 through 11/16/2020

Concrete Grade: S2M

Contractor:

MIDOT No.:



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

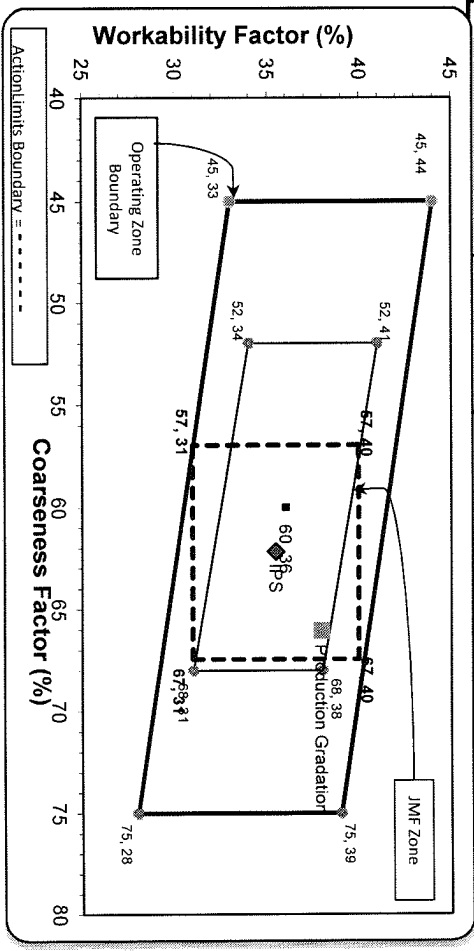
Verify this number is 100%

Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
6AA	71-47	Presque Isle	1670	10.21	2.62	54.8
26A	71-47	Presque Isle	150	0.92	2.62	4.9
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"	97.8	100.0	100.0	98.8	1.2	1.2
3/4"	80.8	100.0	100.0	89.5	9.3	10.5
1/2"	42.6	95.3	100.0	68.3	21.1	31.7
3/8"	26.8	81.4	100.0	59.0	9.3	41.0
#4	5.6	15.1	97.2	43.0	16.0	57.0
#8	2.6	5.2	89.9	37.9	5.1	62.1
#16	2.4	3.4	60.8	26.0	11.9	74.0
#30	2.2	2.9	39.2	17.2	8.8	82.8
#50	2.1	2.6	24.6	11.2	6.0	88.8
#100	2.0	2.4	8.7	4.7	6.5	95.3
LBW	1.6	1.9	1.2	1.5	3.3	98.5

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 66 **Workability Factor:** 38



Initial Production Sample (IPBS)

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

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

*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 1054-6AA LS PI
 Period: 11/08/2020 - 11/14/2020

Name/Title Doug Storey / QC Technician
 Report Date 11/13/2020

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)	80.8	%	
	1/2" (12.5mm)	42.6	%	30-60
	3/8" (9.5mm)	26.8	%	
	#4 (4.75mm)	5.6	%	0-8
	#8 (2.36mm)	2.6	%	
	#16 (1.18mm)	2.4	%	
	#30 (.6mm)	2.2	%	
	#50 (.3mm)	2.1	%	
	#100 (.15mm)	2.0	%	
	#200 (75µm)	1.8	%	
	Wash Loss (#200/75um)	1.6	%	0-2
	Total Moisture	2.9	%	

Plant 958-JMT
 Product 1067-26A Mod LS
 Period: 11/08/2020 - 11/14/2020

Name/Title Doug Storey / QC Technician
 Report Date 11/13/2020

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)	95.3	%	95-100
	3/8" (9.5mm)	81.4	%	60-95
	#4 (4.75mm)	15.1	%	5-30
	#8 (2.36mm)	5.2	%	0-12
	#16 (1.18mm)	3.4	%	
	#30 (.6mm)	2.9	%	
	#50 (.3mm)	2.6	%	
	#100 (.15mm)	2.4	%	
	#200 (75µm)	2.2	%	
	Wash Loss (#200/75um)	1.9	%	0-3
	Total Moisture	3.1	%	

Plant 958-JMT
Product 1022-2NS GR - Smelter Bay
Period: 11/08/2020 - 11/14/2020

Name/Title Doug Storey / QC Technician
Report Date 11/13/2020

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	97.2	%	95-100
	#8 (2.36mm)	89.9	%	65-95
	#16 (1.18mm)	60.8	%	35-75
	#30 (.6mm)	39.2	%	20-55
	#50 (.3mm)	24.6	%	10-30
	#100 (.15mm)	8.7	%	0-10
	#200 (75µm)	1.3	%	
	FM	2.80		2.6-3
	Wash Loss (#200/75um)	1.2	%	0-3
	Total Moisture	5.4	%	