Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-32

Sample Date: 7/11/22

Concrete Grade: **DM, 4500HP**

Dates Test Represents: 7/12/2022 through 7/18/2022

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1755	10.73	2.62	60.4
26A	71-47	Presque Isle	0	0.00	2.62	0.0
2NS	95-013	Smelter Bay	1150	6.95	2.65	39.6
		Total Wt	**2905**	**17.69**		100.0

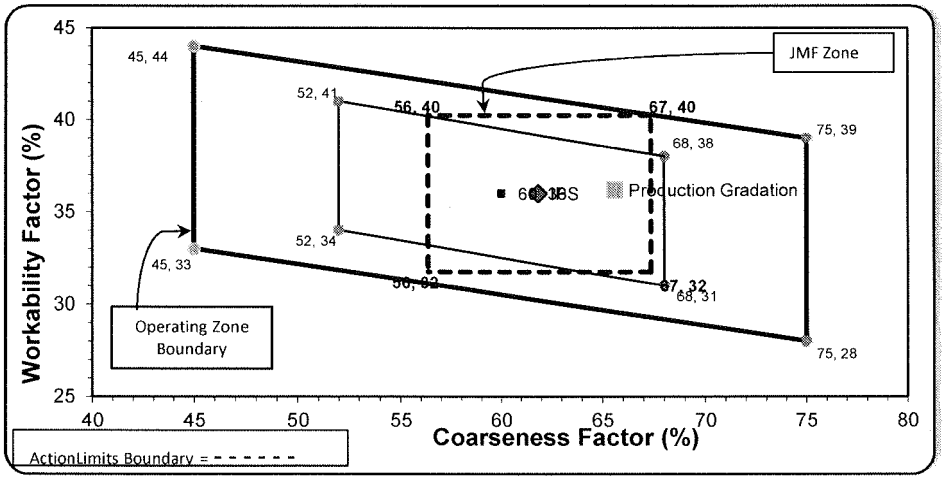
<----- Verify this number is 100%

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"	98.9	100.0	100.0	99.3	0.7	0.7
3/4"	87.3	100.0	100.0	92.3	7.0	7.7
1/2"	53.7	96.5	100.0	72.0	20.3	28.0
3/8"	28.0	86.9	100.0	56.5	15.5	43.5
#4	4.8	29.6	95.6	40.7	15.8	59.3
#8	2.3	10.0	81.6	33.7	7.1	66.3
#16	2.0	5.0	66.7	27.6	6.1	72.4
#30	1.9	3.5	47.8	20.1	7.5	79.9
#50	1.8	3.1	24.1	10.6	9.4	89.4
#100	1.7	2.8	7.7	4.1	6.6	95.9
LBW	1.3	2.5	1.8	1.5	2.6	98.5

*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:	34	Adjusted WF	36.2



Intial Production Sample (IPS)

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

PREPARED BY:
SM, LLC Technical Service

Approved By:

Edw. C. Levy Co.

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

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Period: 07/10/2022 - 07/16/2022

Name/Title Doug Storey / QC Technician

Report Date 07/15/2022

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)	81.6	%	65-95
	#16 (1.18mm)	66.7	%	35-75
	#30 (.6mm)	47.8	%	20-55
	#50 (.3mm)	24.1	%	10-30
	#100 (.15mm)	7.7	%	0-10
	#200 (75µm)	2.1	%	
	FM	2.76		2.6-3
	Wash Loss (#200/75um)	1.8	%	0-3

Edw. C. Levy Co.

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

Plant 958-JMT

Product 1067-26A Mod LS

Period: 07/10/2022 - 07/16/2022

Name/Title Doug Storey / QC Technician

Report Date 07/15/2022

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)	96.5	%	95-100
	3/8" (9.5mm)	86.9	%	60-95
	#4 (4.75mm)	29.6	%	5-30
	#8 (2.36mm)	10.0	%	0-12
	#16 (1.18mm)	5.0	%	
	#30 (.6mm)	3.5	%	
	#50 (.3mm)	3.1	%	
	#100 (.15mm)	2.8	%	
	#200 (75µm)	2.6	%	
	Wash Loss (#200/75um)	2.5	%	0-3

Edw. C. Levy Co.

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

Plant 958-JMT

Product 1054-6AA LS PI

Period: 07/10/2022 - 07/16/2022

Name/Title Doug Storey / QC Technician

Report Date 07/15/2022

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	98.9	%	95-100
	3/4" (19mm)	87.3	%	
	1/2" (12.5mm)	53.7	%	30-60
	3/8" (9.5mm)	28.0	%	
	#4 (4.75mm)	4.8	%	0-8
	#8 (2.36mm)	2.3	%	
	#16 (1.18mm)	2.0	%	
	#30 (.6mm)	1.9	%	
	#50 (.3mm)	1.8	%	
	#100 (.15mm)	1.7	%	
	#200 (75µm)	1.5	%	
	Wash Loss (#200/75um)	1.3	%	0-2