

Aggregate Optimization Chart

PLANT #: **P-32**

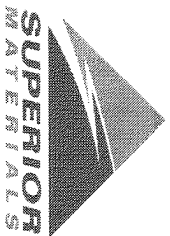
Sample Date: **10/4/21**

Dates Test Represents: **10/5/2021** through **10/11/2021**

Concrete Grade: **DM**

Contractor: _____

MDOT No.: _____



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

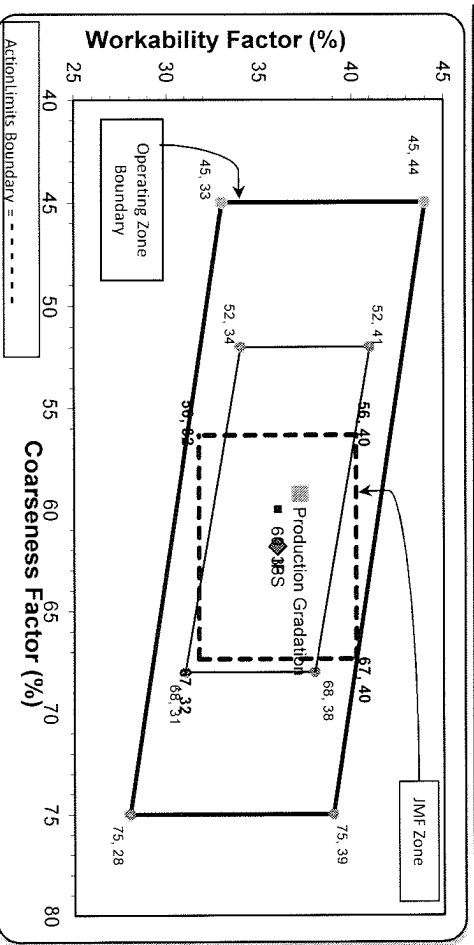
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1200	7.34	2.62	41.3
26A	71-47	Presque Isle	555	3.39	2.62	19.1
2NS	95-013	Smelter Bay	1150	6.95	2.65	39.6
			Total Wt	2905		100.0

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"	97.6	100.0	100.0	99.0	1.0	1.0
3/4"	80.9	100.0	100.0	92.1	6.9	7.9
1/2"	37.0	95.4	100.0	73.1	19.0	26.9
3/8"	15.6	80.1	100.0	61.3	11.8	38.7
#4	3.3	13.8	96.4	42.2	19.2	57.8
#8	1.8	4.7	83.5	34.7	7.5	65.3
#16	1.5	3.5	67.9	28.2	6.5	71.8
#30	1.4	3.2	50.2	21.1	7.1	78.9
#50	1.4	3.0	25.0	11.0	10.0	89.0
#100	1.3	2.9	8.2	4.3	6.7	95.7
LBW	0.9	2.6	1.9	1.6	2.7	98.4

*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: **59** Workability Factor: **35** Adjusted WF: **37.2**



Sieve	Initial Production Sample (IPS)	Coarseness Factor:	Workability Factor:	Adjusted WF
2"	100.0	62	36	37.2
1.5"	100.0			
1"	100.0			
3/4"	95.0			
1/2"	72.3			
3/8"	60.4			
#4	42.6			
#8	36.0			
#16	29.5			
#30	20.3			
#50	9.5			
#100	3.4			
LBW	1.3			

PREPARED BY:
 SM, LLC Technical Service

Approved By: _____

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Doug Storey / QC Technician

Period: 10/03/2021 - 10/09/2021

Report Date 10/10/2021

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.4	%	95-100
	#8 (2.36mm)	83.5	%	65-95
	#16 (1.18mm)	67.9	%	35-75
	#30 (.6mm)	50.2	%	20-55
	#50 (.3mm)	25.0	%	10-30
	#100 (.15mm)	8.2	%	0-10
	#200 (75µm)	2.0	%	
	FM	2.69		2.6-3
	Wash Loss (#200/75um)	1.9	%	0-3
	Total Moisture	5.9	%	

Plant 958-JMT

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 10/03/2021 - 10/09/2021

Report Date 10/10/2021

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)	95.4	%	95-100
	3/8" (9.5mm)	80.1	%	60-95
	#4 (4.75mm)	13.8	%	5-30
	#8 (2.36mm)	4.7	%	0-12
	#16 (1.18mm)	3.5	%	
	#30 (.6mm)	3.2	%	
	#50 (.3mm)	3.0	%	
	#100 (.15mm)	2.9	%	
	#200 (75µm)	2.7	%	
	Wash Loss (#200/75um)	2.6	%	0-3
	Total Moisture	5.0	%	

Plant 958-JMT

Product 1054-6AA LS PI

Name/Title Doug Storey / QC Technician

Period: 10/03/2021 - 10/09/2021

Report Date 10/10/2021

Procedure	Sieve/Test	Result	Unit	6AA LS PI Spec
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	97.6	%	95-100
	3/4" (19mm)	80.9	%	
	1/2" (12.5mm)	37.0	%	30-60
	3/8" (9.5mm)	15.6	%	
	#4 (4.75mm)	3.3	%	0-8
	#8 (2.36mm)	1.8	%	
	#16 (1.18mm)	1.5	%	
	#30 (.6mm)	1.4	%	
	#50 (.3mm)	1.4	%	
	#100 (.15mm)	1.3	%	
	#200 (75µm)	1.1	%	
	Wash Loss (#200/75um)	0.9	%	0-2
	Total Moisture	2.7	%	