

# Aggregate Optimization Chart

# Production Gradation Report

**PLANT #:** P-36

Sample Date: 9/26/22

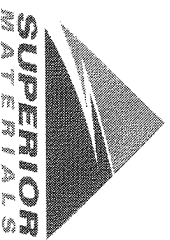
Dates Test Represents: 9/27/2022 through 10/3/2022

Concrete Grade: P1M, 3500HP

Contractor: \_\_\_\_\_

MDOT No.: \_\_\_\_\_

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	Contribution %
CA	71-47	Presque Isle	1050	6.42	2.62	34.2
IA	71-47	Presque Isle	820	5.02	2.62	26.7
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
<b>Total Wt</b>			<b>3070</b>	<b>18.70</b>		<b>100.0</b>



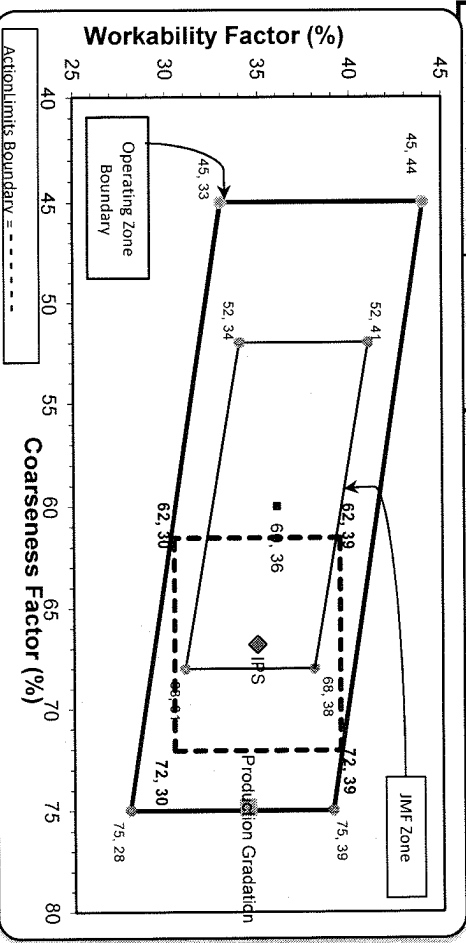
**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	90.0	100.0	100.0	96.6	3.4	3.4
1"	39.3	100.0	100.0	79.2	17.3	20.8
3/4"	8.5	97.0	100.0	67.9	11.3	32.1
1/2"	2.2	65.4	100.0	57.3	10.6	42.7
3/8"	1.8	41.9	100.0	50.9	6.4	49.1
#4	1.7	9.4	98.2	41.5	9.4	58.5
#8	1.7	3.9	83.8	34.4	7.1	65.6
#16	1.6	2.7	69.5	28.4	5.9	71.6
#30	1.6	2.4	51.9	21.5	7.0	78.5
#50	1.6	2.2	21.8	9.7	11.8	90.3
#100	1.5	2.0	4.2	2.7	7.0	97.3
LBW	1.3	1.7	0.5	1.1	1.6	98.9

\*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: 75 Workability Factor: 34



Initial Production Sample (IPS)

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	85.0	15.0	15.0
3/4"	72.1	12.9	27.9
1/2"	64.5	7.6	35.5
3/8"	56.5	8.0	43.5
#4	42.7	13.8	57.3
#8	34.9	7.8	65.1
#16	29.0	5.9	71.0
#30	21.0	8.0	79.0
#50	8.2	12.8	91.8
#100	1.6	6.5	98.4
LBW	0.7	0.9	99.3

PREPARED BY:  
 SM, LLC Technical Service

Approved By: \_\_\_\_\_



Superior Auburn Hills  
 2470 Auburn Road  
 Auburn Hills, MI 48432

Plant S36-Superior Auburn Hills

Product 1022-2NS GR

Period: 09/25/2022 - 10/01/2022

Name/Title Doug Storey / QC Technician

Report Date 09/30/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	98.2	%	95-100
	#8 (2.36mm)	83.8	%	65-95
	#16 (1.18mm)	69.5	%	35-75
	#30 (.6mm)	51.9	%	20-55
	#50 (.3mm)	21.8	%	10-30
	#100 (.15mm)	4.2	%	0-10
	#200 (75µm)	0.6	%	
	FM	2.71		2.6-3
	Wash Loss (#200/75um)	0.5	%	0-3
	Total Moisture	3.90	%	



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Plant S36-Superior Auburn Hills  
 Product 7920-INTERMED AGG P1M LS  
 Period: 09/25/2022 - 10/01/2022

Name/Title Doug Storey / QC Technician  
 Report Date 09/30/2022

Procedure	Sieve/Test	Result	Unit	Intermed Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	
	1" (25mm)	100.0	%	
	3/4" (19mm)	97.0	%	
	1/2" (12.5mm)	65.4	%	
	3/8" (9.5mm)	41.9	%	
	#4 (4.75mm)	9.4	%	
	#8 (2.36mm)	3.9	%	
	#16 (1.18mm)	2.7	%	
	#30 (.6mm)	2.4	%	
	#50 (.3mm)	2.2	%	
	#100 (.15mm)	2.0	%	
	#200 (75µm)	1.8	%	
	Wash Loss (#200/75um)	1.7	%	0-3
	Total Moisture	3.69	%	



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**Plant** S36-Superior Auburn Hills  
**Product** 7919-COARSE AGG P1M LS  
**Period:** 09/25/2022 - 10/01/2022

**Name/Title** Doug Storey / QC Technician  
**Report Date** 09/30/2022

Procedure	Sieve/Test	Result	Unit	Coarse Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	90.0	%	
	1" (25mm)	39.3	%	
	3/4" (19mm)	8.5	%	
	1/2" (12.5mm)	2.2	%	
	3/8" (9.5mm)	1.8	%	
	#4 (4.75mm)	1.7	%	
	#8 (2.36mm)	1.7	%	
	#16 (1.18mm)	1.6	%	
	#30 (.6mm)	1.6	%	
	#50 (.3mm)	1.6	%	
	#100 (.15mm)	1.5	%	
	#200 (75µm)	1.4	%	
	Wash Loss (#200/75µm)	1.3	%	0-2
	Total Moisture	2.25	%	