

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-36**

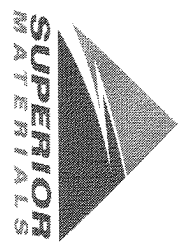
Sample Date: 9/19/22

Dates Test Represents: 9/20/2022 through 9/26/2022

Concrete Grade: **P1M 3500HP**

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 %
CA	71-47	Presque Isle	950	5.81	2.62	30.9
IA	71-47	Presque Isle	920	5.63	2.62	30.0
NNS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt:						18.70
Total Wt:						100.0

Sieve	CA	IA	NNS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	96.1	100.0	100.0	98.8	1.2	1.2
1"	47.6	100.0	100.0	83.8	15.0	16.2
3/4"	15.8	97.8	100.0	73.3	10.5	26.7
1/2"	5.6	74.9	100.0	63.3	10.0	36.7
3/8"	4.2	50.4	100.0	55.5	7.8	44.5
#4	2.9	12.8	97.3	42.8	12.7	57.2
#8	2.4	5.4	82.7	34.7	8.1	65.3
#16	2.2	4.1	68.2	28.6	6.1	71.4
#30	2.1	3.8	50.4	21.5	7.1	78.5
#50	2.0	3.5	20.1	9.5	12.0	90.5
#100	1.9	3.2	4.0	3.1	6.4	96.9
LBW	1.4	2.6	0.7	1.5	1.6	98.5

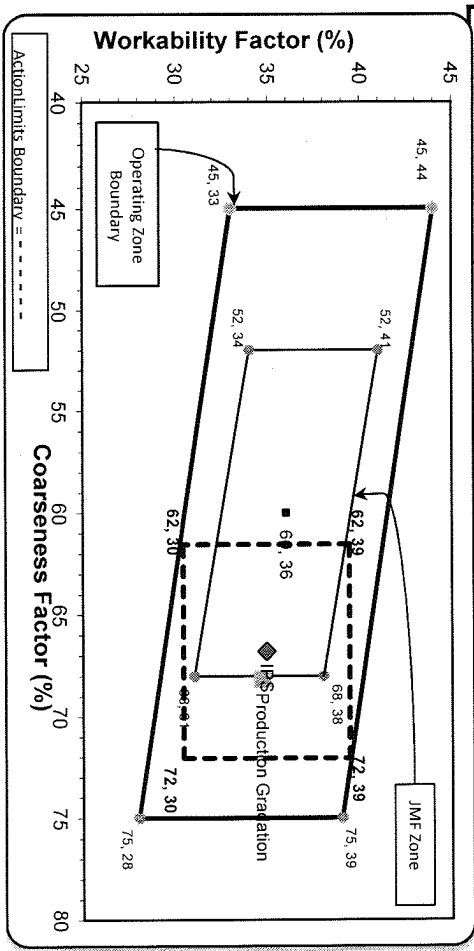
*Maximum % Retained must be above the 3/8" sieve.
*Any two adjacent sieves must equal 10% except max.
nom. max. #100 and #200 sieves.
**Retained must be at least 4% for each sieve except max.
nom. max. #100 and #200 sieves.
***Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Initial Production Sample (IPS)

Coarseness Factor: **68** Workability Factor: **35**

Coarseness Factor: **67** Workability Factor: **35**



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: 09/18/2022 - 09/24/2022

Name/Title Doug Storey / QC Technician
 Report Date 09/23/2022

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	97.3	%	95-100
	#8 (2.36mm)	82.7	%	65-95
	#16 (1.18mm)	68.2	%	35-75
	#30 (.6mm)	50.4	%	20-55
	#50 (.3mm)	20.1	%	10-30
	#100 (.15mm)	4.0	%	0-10
	#200 (75µm)	0.9	%	
	FM	2.77		2.6-3
	Wash Loss (#200/75um)	0.7	%	0-3
	Total Moisture	3.54	%	



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Plant S36-Superior Auburn Hills
 Product 7920-INTERMED AGG P1M LS
 Period: 09/18/2022 - 09/24/2022

Name/Title Doug Storey / QC Technician
 Report Date 09/23/2022

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)	97.8	%	
	1/2" (12.5mm)	74.9	%	
	3/8" (9.5mm)	50.4	%	
	#4 (4.75mm)	12.8	%	
	#8 (2.36mm)	5.4	%	
	#16 (1.18mm)	4.1	%	
	#30 (.6mm)	3.8	%	
	#50 (.3mm)	3.5	%	
	#100 (.15mm)	3.2	%	
	#200 (75µm)	2.8	%	
	Wash Loss (#200/75um)	2.6	%	0-3
	Total Moisture	3.37	%	



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Plant S36-Superior Auburn Hills
Product 7919-COARSE AGG P1M LS
Period: 09/18/2022 - 09/24/2022

Name/Title Doug Storey / QC Technician
Report Date 09/23/2022

Procedure	Sieve/Test	Result	Unit	Coarse Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	96.1	%	
	1" (25mm)	47.6	%	
	3/4" (19mm)	15.8	%	
	1/2" (12.5mm)	5.6	%	
	3/8" (9.5mm)	4.2	%	
	#4 (4.75mm)	2.9	%	
	#8 (2.36mm)	2.4	%	
	#16 (1.18mm)	2.2	%	
	#30 (.6mm)	2.1	%	
	#50 (.3mm)	2.0	%	
	#100 (.15mm)	1.9	%	
	#200 (75µm)	1.6	%	
	Wash Loss (#200/75um)	1.4	%	0-2
	Total Moisture	2.09	%	