

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-36

Contractor: _____

Sample Date: 9/7/20

MDOT No.: _____

Dates Test Represents: 9/8/2020 through 9/14/2020

Concrete Grade: DM

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1455	8.90	2.62	50.1
26A	71-47	Presque Isle	350	2.14	2.62	12.0
2NS	63-92	Grange Hall	1100	6.65	2.65	37.9
Total Wt						2905
						17.69
						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"	98.0	100.0	100.0	99.0	1.0	1.0
3/4"	70.7	100.0	100.0	85.3	13.7	14.7
1/2"	38.0	96.6	100.0	68.5	16.8	31.5
3/8"	20.7	78.3	100.0	57.7	10.9	42.3
#4	4.0	14.7	97.3	40.6	17.0	59.4
#8	2.3	4.8	83.6	33.4	7.2	66.6
#16	2.0	2.9	68.3	27.2	6.2	72.8
#30	1.9	2.5	49.9	20.1	7.1	79.9
#50	1.8	2.3	22.5	9.7	10.4	90.3
#100	1.6	2.2	4.0	2.6	7.1	97.4
LBW	1.3	2.0	1.0	1.3	1.3	98.7



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

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"	98.0	100.0	100.0	99.0	1.0	1.0
3/4"	70.7	100.0	100.0	85.3	13.7	14.7
1/2"	38.0	96.6	100.0	68.5	16.8	31.5
3/8"	20.7	78.3	100.0	57.7	10.9	42.3
#4	4.0	14.7	97.3	40.6	17.0	59.4
#8	2.3	4.8	83.6	33.4	7.2	66.6
#16	2.0	2.9	68.3	27.2	6.2	72.8
#30	1.9	2.5	49.9	20.1	7.1	79.9
#50	1.8	2.3	22.5	9.7	10.4	90.3
#100	1.6	2.2	4.0	2.6	7.1	97.4
LBW	1.3	2.0	1.0	1.3	1.3	98.7

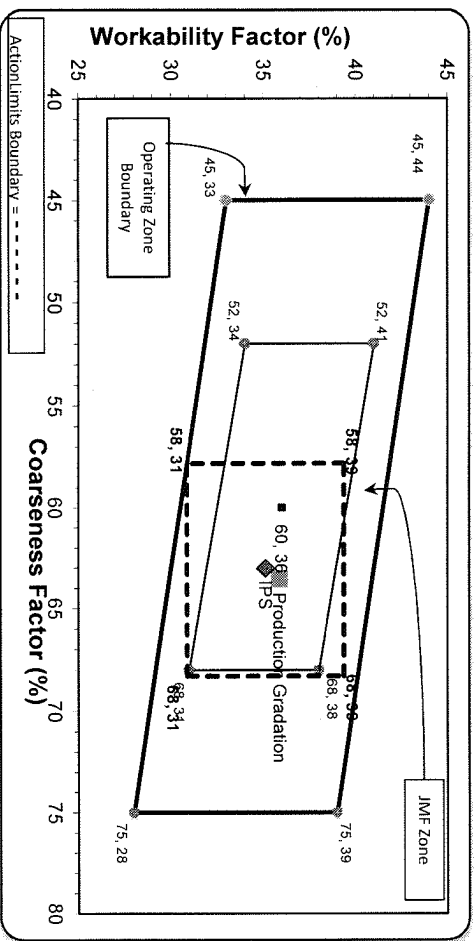
*Maximum % Retained must be above the 3/8" sieve.
*Any two adjacent sieves must equal 10% except max.
*nom. max. #100 and #200 sieves.
*% Retained must be at least 4% for each sieve except max.
*nom. max. #100 and #200 sieves.
*% Retained must be at least 8% for the 1" sieve when
a 2" max. size (nom.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

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 64 Workability Factor: 33 Adjusted WF: 35.9

Initial Production Sample (IPS)

Coarseness Factor: 63 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"	99.1	0.9	0.9
3/4"	90.3	8.8	9.7
1/2"	69.2	21.1	30.8
3/8"	59.1	10.1	40.9
#4	41.8	17.3	58.2
#8	35.1	6.6	64.9
#16	28.5	6.6	71.5
#30	21.2	7.3	78.8
#50	8.7	12.5	91.3
#100	1.8	7.0	98.2
LBW	0.7	1.0	99.3

PREPARED BY: SM, LLC Technical Service

Approved By: _____



2470 Auburn Road
Auburn Hills, MI 48432

Plant S36-Superior Auburn Hills

Product 1051-6AA LS

Name/Title Doug Storey / QC Technician

Period: 09/06/2020 - 09/12/2020

Report Date 09/11/2020

Procedure	Sieve/Test	Result	Unit	6AA LS
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	100-100
	1" (25mm)	98.0	%	95-100
	3/4" (19mm)	70.7	%	
	1/2" (12.5mm)	38.0	%	30-60
	3/8" (9.5mm)	20.7	%	
	#4 (4.75mm)	4.0	%	0-8
	#8 (2.36mm)	2.3	%	
	#16 (1.18mm)	2.0	%	
	#30 (.6mm)	1.9	%	
	#50 (.3mm)	1.8	%	
	#100 (.15mm)	1.6	%	
	#200 (75µm)	1.4	%	
	Wash Loss (#200/75um)	1.3	%	0-2
	Total Moisture	3.76	%	
AASHTO T11	-#200 (75um)	1.42	%	



2470 Auburn Road
Auburn Hills, MI 48432

Plant S36-Superior Auburn Hills

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 09/06/2020 - 09/12/2020

Report Date 09/11/2020

Procedure	Sieve/Test	Result	Unit	26A 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)	96.6	%	95-100
	3/8" (9.5mm)	78.3	%	60-95
	#4 (4.75mm)	14.7	%	5-30
	#8 (2.36mm)	4.8	%	0-12
	#16 (1.18mm)	2.9	%	
	#30 (.6mm)	2.5	%	
	#50 (.3mm)	2.3	%	
	#100 (.15mm)	2.2	%	
	#200 (75µm)	2.1	%	
	Wash Loss (#200/75um)	2.0	%	0-3
	Total Moisture	4.66	%	



2470 Auburn Road
Auburn Hills, MI 48432

Plant S36-Superior Auburn Hills

Product 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 09/06/2020 - 09/12/2020

Report Date 09/11/2020

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)	83.6	%	65-95
	#16 (1.18mm)	68.3	%	35-75
	#30 (.6mm)	49.9	%	20-55
	#50 (.3mm)	22.5	%	10-30
	#100 (.15mm)	4.0	%	0-10
	#200 (75µm)	1.0	%	
	FM	2.74		2.6-3
	Wash Loss (#200/75um)	1.0	%	0-3
	Total Moisture	5.48	%	