

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-36

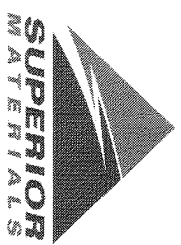
Sample Date: 3/23/20

Dates Test Represents: 3/24/2020 through 3/30/2020

Concrete Grade: DM

Contractor:

MDOT No.:



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

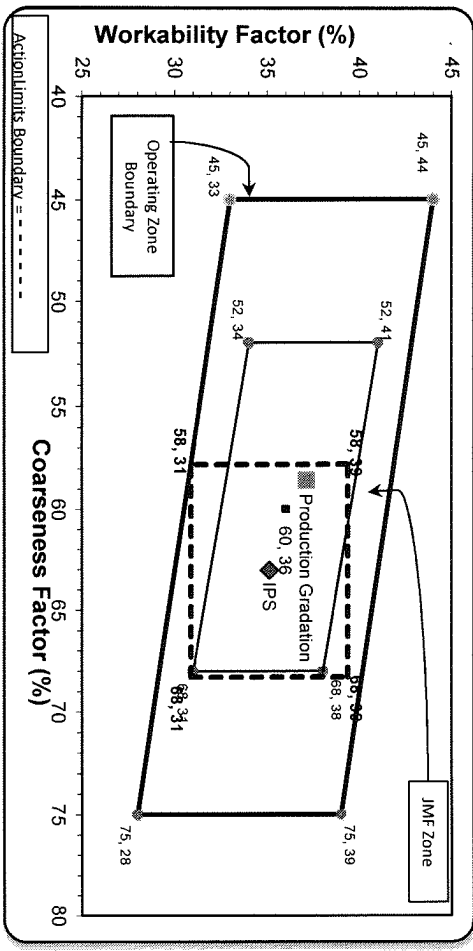
Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1400	8.56	2.62	48.2
26A	71-47	Presque Isle	405	2.48	2.62	13.9
2NS	63-92	Grange Hall	1100	6.65	2.65	37.9
Total Wt:			2905	17.69		100.0

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"	97.0	100.0	100.0	98.6	1.4	1.4
3/4"	80.0	100.0	100.0	90.4	8.2	9.6
1/2"	43.0	100.0	100.0	72.5	17.8	27.5
3/8"	24.0	88.0	100.0	61.7	10.8	38.3
#4	5.0	24.0	97.0	42.5	19.2	57.5
#8	3.0	7.0	85.0	34.6	7.9	65.4
#16	2.8	4.0	70.0	28.4	6.2	71.6
#30	2.7	3.0	50.0	20.7	7.8	79.3
#50	2.5	2.8	22.0	9.9	10.7	90.1
#100	2.3	2.6	4.0	3.0	6.9	97.0
LBW	1.9	2.3	1.3	1.7	1.3	98.3

*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:** 37.1



Sieve	Initial Production Sample (IPS)	Coarseness Factor:	Workability Factor:	Adjusted WF
2"	100.0	63	35	37.1
1.5"	100.0			
1"	99.1			
3/4"	90.3			
1/2"	69.2			
3/8"	59.1			
#4	41.8			
#8	35.1			
#16	28.5			
#30	21.2			
#50	8.7			
#100	1.8			
LBW	0.7			

PREPARED BY:
SM, LLC Technical Service

Approved By:



Basic Quality Statistical Summary Report

Plant S36-Superior Auburn Hills
 Product 1051-6AA LS
 Specification 6AA LS
 Period 03/19/2020 - 03/27/2020

Sieve/Test	Tests	Average	St Dev	Target	Specification
2" (50mm)	1	100.0			
1 1/2" (37.5mm)	1	100.0			100-100
1" (25mm)	1	97.0			95-100
3/4" (19mm)	1	79.8			
1/2" (12.5mm)	1	42.9			30-60
3/8" (9.5mm)	1	24.3			
#4 (4.75mm)	1	5.4			0-8
#8 (2.36mm)	1	3.3			
#16 (1.18mm)	1	2.8			
#30 (0.6mm)	1	2.7			
#50 (0.3mm)	1	2.5			
#100 (0.15mm)	1	2.3			
#200 (75µm)	1	2.12			
Pan	1	0.00			
Wash Loss (#200/75um)	1	1.9			0-2



Basic Quality Statistical Summary Report

Plant S36-Superior Auburn Hills
 Product 1067-26A Mod LS
 Specification 26A LS Spec
 Period 03/19/2020 - 03/27/2020

Sieve/Test	Tests	Average	St Dev	Target	Specification
2" (50mm)	1	100.0			
1 1/2" (37.5mm)	1	100.0			
1" (25mm)	1	100.0			
3/4" (19mm)	1	100.0			100-100
1/2" (12.5mm)	1	100.0			95-100
3/8" (9.5mm)	1	88.4			60-95
#4 (4.75mm)	1	23.9			5-30
#8 (2.36mm)	1	7.2			0-12
#16 (1.18mm)	1	3.7			
#30 (0.6mm)	1	3.1			
#50 (0.3mm)	1	2.8			
#100 (0.15mm)	1	2.6			
#200 (75µm)	1	2.3			
Pan	1	0.0			
Wash Loss (#200/75um)	1	2.3			0-3

Query Query Selections
 Date Created 03/27/2020
 Date Range 03/19/2020 - 03/27/2020
 Plant Superior Auburn Hills



Basic Quality Statistical Summary Report

Plant S36-Superior Auburn Hills
 Product 1022-2NS GR
 Specification 2NS GR Spec
 Period 03/19/2020 - 03/27/2020

Sieve/Test	Tests	Average	St Dev	Target	Specification
3/8" (9.5mm)	1	100.0			100-100
#4 (4.75mm)	1	97.1			95-100
#8 (2.36mm)	1	84.7			65-95
#16 (1.18mm)	1	70.1			35-75
#30 (0.6mm)	1	50.4		40-50	20-55
#50 (0.3mm)	1	21.7			10-30
#100 (0.15mm)	1	4.1			0-10
#200 (75µm)	1	1.3			
Pan	1	0.0			
Wash Loss (#200/75um)	1	1.1			0-3