# Aggregate Optimization Chart

Production Gradation Report

**PLANT #:** P-32

Contractor: _____

Sample Date: 8/10/20

Concrete Grade: DM

Dates Test Represents: 8/11/2020 through 8/17/2020

MDOT No.: _____

| Agg. Class | Pit # | Source | Weight (SSD) | ft³ | Specific Gravity | % Contribution |
|---|---|---|---|---|---|---|
| 6AA | 71-47 | Presque Isle | 1555 | 9.51 | 2.62 | 53.5 |
| 26A | 71-47 | Presque Isle | 200 | 1.22 | 2.62 | 6.9 |
| 2NS | 95-013 | Smelter Bay | 1150 | 6.95 | 2.65 | 39.6 |
| | | **Total Wt** | **2905** | **17.69** | | 100.0 |

<----- Verify this number is 100%

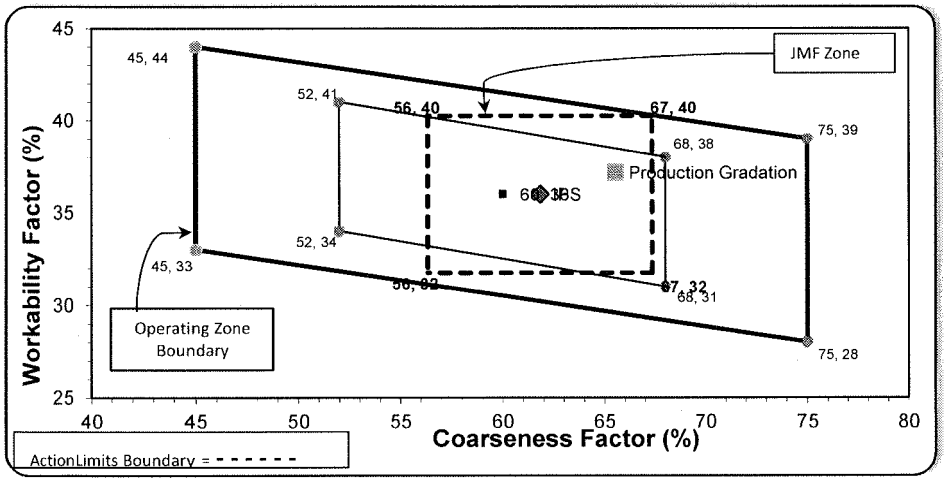
| Sieve | 6AA | 26A | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained |
|---|---|---|---|---|---|---|
| 2" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1.5" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1" | 98.8 | 100.0 | 100.0 | 99.4 | 0.6 | 0.6 |
| 3/4" | 81.8 | 100.0 | 100.0 | 90.3 | 9.1 | 9.7 |
| 1/2" | 39.9 | 95.2 | 100.0 | 67.5 | 22.8 | 32.5 |
| 3/8" | 22.1 | 84.0 | 100.0 | 57.2 | 10.3 | 42.8 |
| #4 | 4.2 | 23.3 | 96.7 | 42.1 | 15.1 | 57.9 |
| #8 | 2.4 | 7.3 | 83.1 | 34.7 | 7.4 | 65.3 |
| #16 | 2.1 | 4.1 | 67.2 | 28.0 | 6.7 | 72.0 |
| #30 | 2.0 | 3.5 | 45.7 | 19.4 | 8.6 | 80.6 |
| #50 | 2.0 | 3.3 | 21.3 | 9.7 | 9.7 | 90.3 |
| #100 | 1.9 | 3.0 | 5.4 | 3.4 | 6.4 | 96.6 |
| LBW | 1.7 | 2.8 | 0.9 | 1.5 | 1.9 | 98.5 |


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


*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: | 66 | Workability Factor: | 35 | Adjusted WF 37.2 |
|---|---|---|---|---|




Intial Production Sample (IPS)

| Coarseness Factor: | 62 |
|---|---|
| Workability Factor: | 36 |

| Sieve | Cumulative % Passing | % Retained | Cumulative % Retained |
|---|---|---|---|
| 2" | 100.0 | 0.0 | 0.0 |
| 1.5" | 100.0 | 0.0 | 0.0 |
| 1" | 100.0 | 0.0 | 0.0 |
| 3/4" | 95.0 | 5.0 | 5.0 |
| 1/2" | 72.3 | 22.8 | 27.7 |
| 3/8" | 60.4 | 11.8 | 39.6 |
| #4 | 42.6 | 17.8 | 57.4 |
| #8 | 36.0 | 6.6 | 64.0 |
| #16 | 29.5 | 6.5 | 70.5 |
| #30 | 20.3 | 9.2 | 79.7 |
| #50 | 9.5 | 10.8 | 90.5 |
| #100 | 3.4 | 6.1 | 96.6 |
| LBW | 1.3 | 2.1 | 98.7 |

PREPARED BY:
SM, LLC Technical Service

Approved By:

# Edw. C. Levy Co.

8911 W. Jefferson
Detroit, 48209
(313) 429-2429

Plant 958-JMT

Product 1054-6AA LS PI

Period: 08/09/2020 - 08/15/2020

Name/Title Doug Storey / QC Technician

Report Date 08/14/2020

| Procedure | Sieve/Test | Result | Unit | 6AA LS PI Spec |
|---|---|---|---|---|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 100.0 | % | 100-100 |
| | 1" (25mm) | 98.8 | % | 95-100 |
| | 3/4" (19mm) | 81.8 | % | |
| | 1/2" (12.5mm) | 39.9 | % | 30-60 |
| | 3/8" (9.5mm) | 22.1 | % | |
| | #4 (4.75mm) | 4.2 | % | 0-8 |
| | #8 (2.36mm) | 2.4 | % | |
| | #16 (1.18mm) | 2.1 | % | |
| | #30 (.6mm) | 2.0 | % | |
| | #50 (.3mm) | 2.0 | % | |
| | #100 (.15mm) | 1.9 | % | |
| | #200 (75µm) | 1.7 | % | |
| | Wash Loss (#200/75um) | 1.6 | % | 0-2 |
| | Total Moisture | 2.7 | % | |

# Edw. C. Levy Co.

8911 W. Jefferson
Detroit, 48209
(313) 429-2429

Plant 958-JMT

Product 1067-26A Mod LS

Period: 08/10/2020 - 08/17/2020

Name/Title Doug Storey / QC Technician

Report Date 08/17/2020

| 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) | 95.2 | % | 95-100 |
| | 3/8" (9.5mm) | 84.0 | % | 60-95 |
| | #4 (4.75mm) | 23.3 | % | 5-30 |
| | #8 (2.36mm) | 7.3 | % | 0-12 |
| | #16 (1.18mm) | 4.1 | % | |
| | #30 (.6mm) | 3.5 | % | |
| | #50 (.3mm) | 3.3 | % | |
| | #100 (.15mm) | 3.0 | % | |
| | #200 (75µm) | 2.8 | % | |
| | Wash Loss (#200/75um) | 2.7 | % | 0-3 |
| | Total Moisture | 4.3 | % | |

# Edw. C. Levy Co.

8911 W. Jefferson
Detroit, 48209
(313) 429-2429

**Plant** 958-JMT

**Product** 1022-2NS GR - Smelter Bay

**Period:** 08/09/2020 - 08/15/2020

**Name/Title** Doug Storey / QC Technician

**Report Date** 08/14/2020

| Procedure | Sieve/Test | Result | Unit | 2NS GR Spec |
|---|---|---|---|---|
| | 3/8" (9.5mm) | 100.0 | % | 100-100 |
| | #4 (4.75mm) | 96.7 | % | 95-100 |
| | #8 (2.36mm) | 83.1 | % | 65-95 |
| | #16 (1.18mm) | 67.2 | % | 35-75 |
| | #30 (.6mm) | 45.7 | % | 20-55 |
| | #50 (.3mm) | 21.3 | % | 10-30 |
| | #100 (.15mm) | 5.4 | % | 0-10 |
| | #200 (75µm) | 0.9 | % | |
| | FM | 2.81 | | 2.6-3 |
| | Wash Loss (#200/75um) | 0.8 | % | 0-3 |
| | Total Moisture | 5.5 | % | |

# Aggregate Optimization Chart

Production Gradation Report

**PLANT #:** P-36

Sample Date: 8/10/20

Concrete Grade: DM

Dates Test Represents: 8/11/2020 through 8/17/2020

Contractor: _____

MDOT No.: _____

| Agg. Class | Pit # | Source | Weight (SSD) | ft³ | 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 |

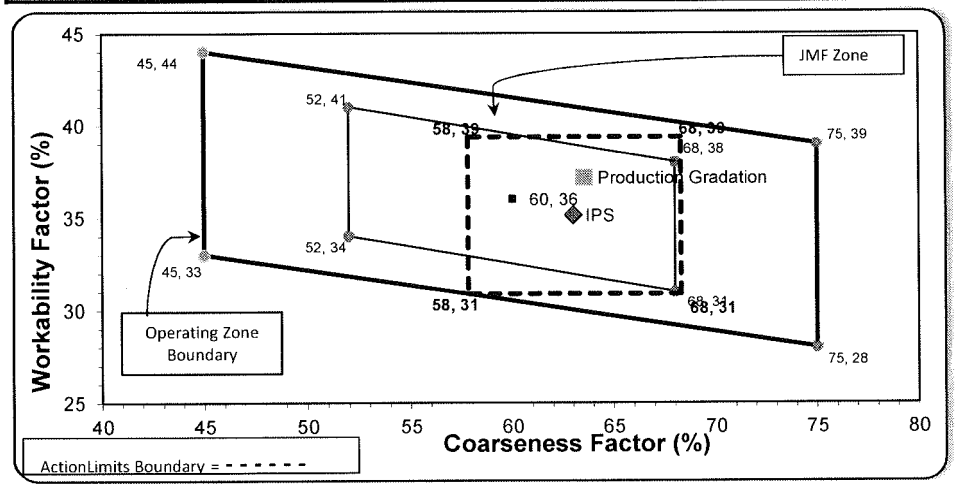
<----- Verify this number is 100%

| 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 | 98.8 | 1.2 | 1.2 |
| 3/4" | 75.6 | 100.0 | 100.0 | 87.8 | 11.0 | 12.2 |
| 1/2" | 35.0 | 96.1 | 100.0 | 67.0 | 20.8 | 33.0 |
| 3/8" | 20.8 | 84.5 | 100.0 | 58.5 | 8.5 | 41.5 |
| #4 | 4.3 | 25.4 | 97.9 | 42.3 | 16.2 | 57.7 |
| #8 | 2.4 | 7.4 | 86.0 | 34.7 | 7.6 | 65.3 |
| #16 | 2.2 | 3.9 | 71.5 | 28.6 | 6.0 | 71.4 |
| #30 | 2.1 | 3.3 | 49.5 | 20.2 | 8.5 | 79.8 |
| #50 | 2.0 | 3.0 | 17.0 | 7.8 | 12.4 | 92.2 |
| #100 | 1.8 | 2.8 | 2.2 | 2.1 | 5.7 | 97.9 |
| LBW | 1.7 | 2.4 | 0.9 | 1.5 | 0.6 | 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

| Coarseness Factor: | 64 | Workability Factor: | 35 | Adjusted WF 37.2 |
|---|---|---|---|---|




Intial 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 |


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


PREPARED BY:
SM, LLC Technical Service

Approved By:

2470 Auburn Road
Auburn Hills, MI 48432

Plant S36-Superior Auburn Hills

Product 1051-6AA LS

Period: 08/09/2020 - 08/15/2020

Name/Title Doug Storey / QC Technician

Report Date 08/14/2020

| Procedure | Sieve/Test | Result | Unit | 6AA LS |
|---|---|---|---|---|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 100.0 | % | 100-100 |
| | 1" (25mm) | 97.6 | % | 95-100 |
| | 3/4" (19mm) | 75.6 | % | |
| | 1/2" (12.5mm) | 35.0 | % | 30-60 |
| | 3/8" (9.5mm) | 20.8 | % | |
| | #4 (4.75mm) | 4.3 | % | 0-8 |
| | #8 (2.36mm) | 2.4 | % | |
| | #16 (1.18mm) | 2.2 | % | |
| | #30 (.6mm) | 2.1 | % | |
| | #50 (.3mm) | 2.0 | % | |
| | #100 (.15mm) | 1.8 | % | |
| | #200 (75µm) | 1.7 | % | |
| | Wash Loss (#200/75um) | 1.6 | % | 0-2 |
| | Total Moisture | 3.46 | % | |

2470 Auburn Road
Auburn Hills, MI 48432

Plant S36-Superior Auburn Hills

Product 1067-26A Mod LS

Period: 08/09/2020 - 08/15/2020

Name/Title Doug Storey / QC Technician

Report Date 08/14/2020

| 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) | 96.1 | % | 95-100 |
| | 3/8" (9.5mm) | 84.5 | % | 60-95 |
| | #4 (4.75mm) | 25.4 | % | 5-30 |
| | #8 (2.36mm) | 7.4 | % | 0-12 |
| | #16 (1.18mm) | 3.9 | % | |
| | #30 (.6mm) | 3.3 | % | |
| | #50 (.3mm) | 3.0 | % | |
| | #100 (.15mm) | 2.8 | % | |
| | #200 (75µm) | 2.4 | % | |
| | Wash Loss (#200/75um) | 2.2 | % | 0-3 |
| | Total Moisture | 3.71 | % | |

2470 Auburn Road
Auburn Hills, MI 48432

**Plant** S36-Superior Auburn Hills

**Product** 1022-2NS GR

**Period:** 08/09/2020 - 08/15/2020

**Name/Title** Doug Storey / QC Technician

**Report Date** 08/14/2020

| Procedure | Sieve/Test | Result | Unit | 2NS GR Spec |
|---|---|---|---|---|
| | 3/8" (9.5mm) | 100.0 | % | 100-100 |
| | #4 (4.75mm) | 97.9 | % | 95-100 |
| | #8 (2.36mm) | 86.0 | % | 65-95 |
| | #16 (1.18mm) | 71.5 | % | 35-75 |
| | #30 (.6mm) | 49.5 | % | 20-55 |
| | #50 (.3mm) | 17.0 | % | 10-30 |
| | #100 (.15mm) | 2.2 | % | 0-10 |
| | #200 (75µm) | 0.9 | % | |
| | FM | 2.76 | | 2.6-3 |
| | Wash Loss (#200/75um) | 0.9 | % | 0-3 |
| | Total Moisture | 3.58 | % | |

# Aggregate Optimization Chart

Production Gradation Report

**PLANT #:** P-39

Sample Date: 8/10/20

Concrete Grade: DM

Contractor: _____

Dates Test Represents: 8/11/2020 through 8/17/2020

MDOT No.: _____

| Agg. Class | Pit # | Source | Weight (SSD) | ft³ | Specific Gravity | % Contribution |
|---|---|---|---|---|---|---|
| 6AA | 71-47 | Presque Isle | 1505 | 9.21 | 2.62 | 51.8 |
| 26A | 71-47 | Presque Isle | 250 | 1.53 | 2.62 | 8.6 |
| 2NS | 44-051 | Krake Willis Rd | 1150 | 6.95 | 2.65 | 39.6 |
| | | **Total Wt** | **2905** | **17.69** | | 100.0 |

<----- Verify this number is 100%

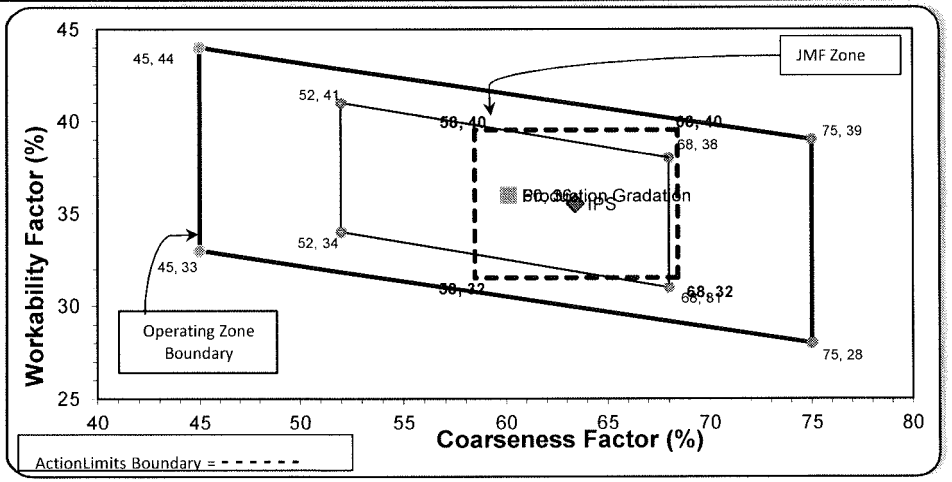
| Sieve | 6AA | 26A | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained |
|---|---|---|---|---|---|---|
| 2" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1.5" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1" | 96.1 | 100.0 | 100.0 | 98.0 | 2.0 | 2.0 |
| 3/4" | 79.2 | 100.0 | 100.0 | 89.2 | 8.8 | 10.8 |
| 1/2" | 43.8 | 96.3 | 100.0 | 70.6 | 18.7 | 29.4 |
| 3/8" | 24.9 | 87.5 | 100.0 | 60.0 | 10.5 | 40.0 |
| #4 | 3.8 | 30.3 | 95.1 | 42.2 | 17.8 | 57.8 |
| #8 | 2.2 | 10.6 | 79.4 | 33.5 | 8.7 | 66.5 |
| #16 | 1.9 | 5.2 | 65.3 | 27.3 | 6.2 | 72.7 |
| #30 | 1.8 | 3.9 | 50.7 | 21.3 | 5.9 | 78.7 |
| #50 | 1.7 | 3.4 | 26.3 | 11.6 | 9.8 | 88.4 |
| #100 | 1.7 | 3.1 | 7.0 | 3.9 | 7.7 | 96.1 |
| LBW | 1.5 | 2.8 | 2.0 | 1.8 | 2.1 | 98.2 |

*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.


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


Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

| Coarseness Factor: | 60 | Workability Factor: | 33 | Adjusted WF: 36.0 |
|---|---|---|---|---|




Intial Production Sample (IPS)

| Coarseness Factor: | 63 |
|---|---|
| Workability Factor: | 36 |

| Sieve | Cumulative % Passing | % Retained | Cumulative % Retained |
|---|---|---|---|
| 2" | 100.0 | 0.0 | 0.0 |
| 1.5" | 100.0 | 0.0 | 0.0 |
| 1" | 100.0 | 0.0 | 0.0 |
| 3/4" | 89.7 | 10.3 | 10.3 |
| 1/2" | 70.3 | 19.4 | 29.7 |
| 3/8" | 59.1 | 11.2 | 40.9 |
| #4 | 42.8 | 16.3 | 57.2 |
| #8 | 35.5 | 7.3 | 64.5 |
| #16 | 29.0 | 6.5 | 71.0 |
| #30 | 21.2 | 7.7 | 78.8 |
| #50 | 9.8 | 11.5 | 90.2 |
| #100 | 3.7 | 6.1 | 96.3 |
| LBW | 1.2 | 2.5 | 98.8 |

PREPARED BY:
SM, LLC Technical Service

Approved By:

Plant S39-Superior Sterling Heights

Product 1051-6AA LS

Period: 08/09/2020 - 08/15/2020

Name/Title Doug Storey / QC Technician

Report Date 08/14/2020

| Procedure | Sieve/Test | Result | Unit | 6AA LS |
|---|---|---|---|---|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 100.0 | % | 100-100 |
| | 1" (25mm) | 96.1 | % | 95-100 |
| | 3/4" (19mm) | 79.2 | % | |
| | 1/2" (12.5mm) | 43.8 | % | 30-60 |
| | 3/8" (9.5mm) | 24.9 | % | |
| | #4 (4.75mm) | 3.8 | % | 0-8 |
| | #8 (2.36mm) | 2.2 | % | |
| | #16 (1.18mm) | 1.9 | % | |
| | #30 (.6mm) | 1.8 | % | |
| | #50 (.3mm) | 1.7 | % | |
| | #100 (.15mm) | 1.7 | % | |
| | #200 (75µm) | 1.51 | % | |
| | Wash Loss (#200/75um) | 1.4 | % | 0-2 |
| | Total Moisture | 1.97 | % | |

SUPERIOR MATERIALS

Plant S39-Superior Sterling Heights

Product 1067-26A Mod LS

Period: 08/09/2020 - 08/15/2020

Name/Title Doug Storey / QC Technician

Report Date 08/14/2020

| 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) | 96.3 | % | 95-100 |
| | 3/8" (9.5mm) | 87.5 | % | 60-95 |
| | #4 (4.75mm) | 30.3 | % | 5-30 |
| | #8 (2.36mm) | 10.6 | % | 0-12 |
| | #16 (1.18mm) | 5.2 | % | |
| | #30 (.6mm) | 3.9 | % | |
| | #50 (.3mm) | 3.4 | % | |
| | #100 (.15mm) | 3.1 | % | |
| | #200 (75µm) | 2.8 | % | |
| | Wash Loss (#200/75um) | 2.7 | % | 0-3 |
| | Total Moisture | 2.46 | % | |

**Plant** S39-Superior Sterling Heights

**Product** 1022-2NS GR

**Period:** 08/09/2020 - 08/15/2020

**Name/Title** Doug Storey / QC Technician

**Report Date** 08/14/2020

| Procedure | Sieve/Test | Result | Unit | 2NS GR Spec |
|---|---|---|---|---|
| | 3/8" (9.5mm) | 100.0 | % | 100-100 |
| | #4 (4.75mm) | 95.1 | % | 95-100 |
| | #8 (2.36mm) | 79.4 | % | 65-95 |
| | #16 (1.18mm) | 65.3 | % | 35-75 |
| | #30 (.6mm) | 50.7 | % | 20-55 |
| | #50 (.3mm) | 26.3 | % | 10-30 |
| | #100 (.15mm) | 7.0 | % | 0-10 |
| | #200 (75µm) | 2.0 | % | |
| | FM | 2.76 | | 2.6-3 |
| | Wash Loss (#200/75um) | 1.6 | % | 0-3 |
| | Total Moisture | 3.59 | % | |

# Aggregate Optimization Chart

Production Gradation Report

**PLANT #:** P-102

Contractor: _____

Sample Date: 8/10/20

Concrete Grade: DM

Dates Test Represents: 8/11/2020 through 8/17/2020

MDOT No.: _____

| Agg. Class | Pit # | Source | Weight (SSD) | ft³ | Specific Gravity | % Contribution |
|---|---|---|---|---|---|---|
| 6AA | 58-003 | Stoneco | 1500 | 8.94 | 2.69 | 50.8 |
| 26A | 58-003 | Stoneco | 305 | 1.82 | 2.69 | 10.3 |
| 2NS | 63-114 | Highland | 1150 | 6.95 | 2.65 | 38.9 |
| | | **Total Wt** | **2955** | **17.71** | | 100.0 |

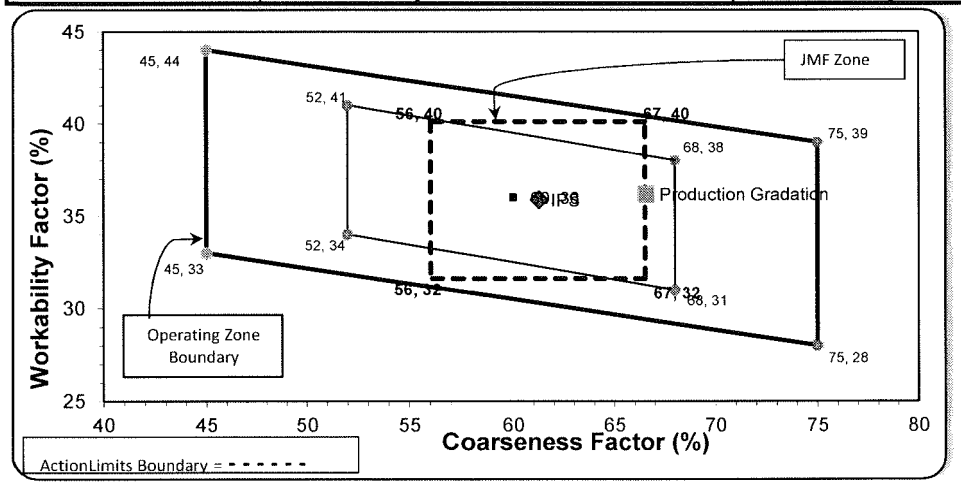
<----- Verify this number is 100%

| 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" | 99.0 | 100.0 | 100.0 | 99.5 | 0.5 | 0.5 |
| 3/4" | 77.1 | 100.0 | 100.0 | 88.4 | 11.1 | 11.6 |
| 1/2" | 36.7 | 99.8 | 100.0 | 67.8 | 20.5 | 32.2 |
| 3/8" | 15.3 | 88.8 | 100.0 | 55.8 | 12.0 | 44.2 |
| #4 | 3.6 | 19.1 | 99.1 | 42.4 | 13.5 | 57.6 |
| #8 | 1.8 | 4.9 | 82.9 | 33.7 | 8.7 | 66.3 |
| #16 | 1.4 | 2.6 | 65.0 | 26.3 | 7.4 | 73.7 |
| #30 | 1.3 | 2.0 | 47.4 | 19.3 | 7.0 | 80.7 |
| #50 | 1.3 | 1.8 | 24.1 | 10.2 | 9.1 | 89.8 |
| #100 | 1.2 | 1.7 | 7.1 | 3.5 | 6.7 | 96.5 |
| LBW | 1.1 | 1.6 | 2.2 | 1.6 | 2.0 | 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: | 67 | Workability Factor: | 34 | Adjusted WF 36.2 |
|---|---|---|---|---|




Intial Production Sample (IPS)

| Coarseness Factor: | 61 |
|---|---|
| Workability Factor: | 36 |

| Sieve | Cumulative % Passing | % Retained | Cumulative % Retained |
|---|---|---|---|
| 2" | 100.0 | 0.0 | 0.0 |
| 1.5" | 100.0 | 0.0 | 0.0 |
| 1" | 99.3 | 0.7 | 0.7 |
| 3/4" | 89.2 | 10.1 | 10.8 |
| 1/2" | 70.7 | 18.5 | 29.3 |
| 3/8" | 60.7 | 10.0 | 39.3 |
| #4 | 44.4 | 16.3 | 55.6 |
| #8 | 35.9 | 8.5 | 64.1 |
| #16 | 27.3 | 8.6 | 72.7 |
| #30 | 19.1 | 8.2 | 80.9 |
| #50 | 7.4 | 11.7 | 92.6 |
| #100 | 1.9 | 5.6 | 98.1 |
| LBW | 0.7 | 1.2 | 99.3 |


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


PREPARED BY:
SM, LLC Technical Service

Approved By:

SUPERIOR MATERIALS

Plant S102-Superior Novi

Product 1051-6AA LS

Period: 08/09/2020 - 08/15/2020

Name/Title Doug Storey / QC Technician

Report Date 08/14/2020

| Procedure | Sieve/Test | Result | Unit | 6AA LS |
|---|---|---|---|---|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 100.0 | % | 100-100 |
| | 1" (25mm) | 99.0 | % | 95-100 |
| | 3/4" (19mm) | 77.1 | % | |
| | 1/2" (12.5mm) | 36.7 | % | 30-60 |
| | 3/8" (9.5mm) | 15.3 | % | |
| | #4 (4.75mm) | 3.6 | % | 0-8 |
| | #8 (2.36mm) | 1.8 | % | |
| | #16 (1.18mm) | 1.4 | % | |
| | #30 (.6mm) | 1.3 | % | |
| | #50 (.3mm) | 1.3 | % | |
| | #100 (.15mm) | 1.2 | % | |
| | #200 (75µm) | 1.12 | % | |
| | Wash Loss (#200/75um) | 1.1 | % | 0-2 |
| | Total Moisture | 3.29 | % | |

SUPERIOR MATERIALS

Plant S102-Superior Novi

Product 1067-26A Mod LS

Period: 08/09/2020 - 08/15/2020

Name/Title Doug Storey / QC Technician

Report Date 08/14/2020

| 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) | 99.8 | % | 95-100 |
| | 3/8" (9.5mm) | 88.8 | % | 60-95 |
| | #4 (4.75mm) | 19.1 | % | 5-30 |
| | #8 (2.36mm) | 4.9 | % | 0-12 |
| | #16 (1.18mm) | 2.6 | % | |
| | #30 (.6mm) | 2.0 | % | |
| | #50 (.3mm) | 1.8 | % | |
| | #100 (.15mm) | 1.7 | % | |
| | #200 (75µm) | 1.6 | % | |
| | Wash Loss (#200/75um) | 1.5 | % | 0-3 |
| | Total Moisture | 3.30 | % | |

**Plant** S102-Superior Novi

**Product** 1022-2NS GR

**Period:** 08/09/2020 - 08/15/2020

**Name/Title** Doug Storey / QC Technician

**Report Date** 08/14/2020

| Procedure | Sieve/Test | Result | Unit | 2NS GR Spec |
|---|---|---|---|---|
| | 3/8" (9.5mm) | 100.0 | % | 100-100 |
| | #4 (4.75mm) | 99.1 | % | 95-100 |
| | #8 (2.36mm) | 82.9 | % | 65-95 |
| | #16 (1.18mm) | 65.0 | % | 35-75 |
| | #30 (.6mm) | 47.4 | % | 20-55 |
| | #50 (.3mm) | 24.1 | % | 10-30 |
| | #100 (.15mm) | 7.1 | % | 0-10 |
| | #200 (75µm) | 2.2 | % | |
| | FM | 2.74 | | 2.6-3 |
| | Wash Loss (#200/75um) | 2.2 | % | 0-3 |
| | Total Moisture | 4.52 | % | |