# Aggregate Optimization Chart

Production Gradation Report

**PLANT #:** P-O2

Contractor: _____

Sample Date: 12/4/23

Concrete Grade: **DM, 4500HP**

Dates Test Represents: 12/5/2023 through 12/11/2023

MDOT No.: _____

| Agg. Class | Pit # | Source | Weight (SSD) | ft³ | Specific Gravity | % Contribution |
|---|---|---|---|---|---|---|
| 6AA | 71-47 | Presque Isle | 1450 | 8.87 | 2.62 | 49.9 |
| 26A | 71-47 | Presque Isle | 305 | 1.87 | 2.62 | 10.5 |
| 2NS | 63-115 | Ray Rd | 1150 | 6.95 | 2.65 | 39.6 |
| | | **Total Wt** | **2905** | **17.69** | | 100.0 |

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

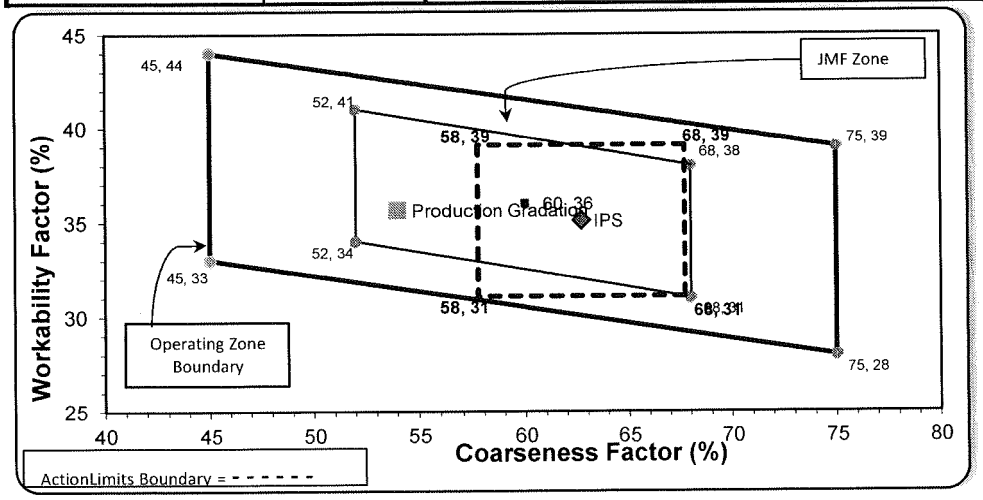
| Sieve | 6AA | 26A | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained |
|---|---|---|---|---|---|---|
| 2" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1.5" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1" | 99.2 | 100.0 | 100.0 | 99.6 | 0.4 | 0.4 |
| 3/4" | 85.2 | 100.0 | 100.0 | 92.6 | 7.0 | 7.4 |
| 1/2" | 49.8 | 94.4 | 100.0 | 74.4 | 18.3 | 25.6 |
| 3/8" | 31.4 | 82.2 | 100.0 | 63.9 | 10.5 | 36.1 |
| #4 | 4.2 | 18.0 | 96.6 | 42.2 | 21.7 | 57.8 |
| #8 | 1.4 | 4.4 | 80.8 | 33.1 | 9.1 | 66.9 |
| #16 | 1.2 | 2.6 | 65.5 | 26.8 | 6.3 | 73.2 |
| #30 | 1.1 | 2.1 | 49.8 | 20.5 | 6.3 | 79.5 |
| #50 | 1.1 | 1.9 | 25.6 | 10.9 | 9.6 | 89.1 |
| #100 | 1.0 | 1.7 | 5.4 | 2.8 | 8.1 | 97.2 |
| LBW | 1.0 | 1.6 | 1.0 | 1.1 | 1.8 | 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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.


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


Production Gradation ◉ Batch Plant Gradations ○ Aggregate SupplierGradations

| Coarseness Factor: | 54 | Workability Factor: | 33 | Adjusted WF: | 35.6 |
|---|---|---|---|---|---|




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" | 100.0 | 0.0 | 0.0 |
| 3/4" | 95.1 | 4.9 | 4.9 |
| 1/2" | 74.6 | 20.5 | 25.4 |
| 3/8" | 59.3 | 15.3 | 40.7 |
| #4 | 42.1 | 17.2 | 57.9 |
| #8 | 35.1 | 7.1 | 64.9 |
| #16 | 29.2 | 5.9 | 70.8 |
| #30 | 21.9 | 7.3 | 78.1 |
| #50 | 9.6 | 12.4 | 90.4 |
| #100 | 2.4 | 7.2 | 97.6 |
| LBW | 0.9 | 1.5 | 99.1 |

Approved By:

PREPARED BY:
SM, LLC Technical Service

Plant S02-Superior Hoover

**Product** 1051-6AA LS

**Period:** 12/03/2023 - 12/09/2023

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

**Report Date** 12/08/2023

| Procedure | Sieve/Test | Result | Unit | 6AA LS |
|---|---|---|---|---|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 100.0 | % | 100-100 |
| | 1" (25mm) | 99.2 | % | 95-100 |
| | 3/4" (19mm) | 85.2 | % | |
| | 1/2" (12.5mm) | 49.8 | % | 30-60 |
| | 3/8" (9.5mm) | 31.4 | % | |
| | #4 (4.75mm) | 4.2 | % | 0-8 |
| | #8 (2.36mm) | 1.4 | % | |
| | #16 (1.18mm) | 1.2 | % | |
| | #30 (.6mm) | 1.1 | % | |
| | #50 (.3mm) | 1.1 | % | |
| | #100 (.15mm) | 1.0 | % | |
| | #200 (75µm) | 1.02 | % | |
| | Wash Loss (#200/75um) | 1.0 | % | 0-2 |
| | Total Moisture | 3.26 | % | |

Plant S02-Superior Hoover

Product 1067-26A Mod LS

Period: 12/03/2023 - 12/09/2023

Name/Title Doug Storey / QC Technician

Report Date 12/08/2023

| 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) | 94.4 | % | 95-100 |
| | 3/8" (9.5mm) | 82.2 | % | 60-95 |
| | #4 (4.75mm) | 18.0 | % | 5-30 |
| | #8 (2.36mm) | 4.4 | % | 0-12 |
| | #16 (1.18mm) | 2.6 | % | |
| | #30 (.6mm) | 2.1 | % | |
| | #50 (.3mm) | 1.9 | % | |
| | #100 (.15mm) | 1.7 | % | |
| | #200 (75µm) | 1.6 | % | |
| | Wash Loss (#200/75um) | 1.6 | % | 0-3 |
| | Total Moisture | 3.72 | % | |

Plant S02-Superior Hoover

Product 1022-2NS GR

Period: 12/03/2023 - 12/09/2023

Name/Title Doug Storey / QC Technician

Report Date 12/08/2023

| Procedure | Sieve/Test | Result | Unit | 2NS GR Spec |
|---|---|---|---|---|
| | 3/8" (9.5mm) | 100.0 | % | 100-100 |
| | #4 (4.75mm) | 96.6 | % | 95-100 |
| | #8 (2.36mm) | 80.8 | % | 65-95 |
| | #16 (1.18mm) | 65.5 | % | 35-75 |
| | #30 (.6mm) | 49.8 | % | 20-55 |
| | #50 (.3mm) | 25.6 | % | 10-30 |
| | #100 (.15mm) | 5.4 | % | 0-10 |
| | #200 (75µm) | 1.2 | % | |
| | FM | 2.76 | | 2.6-3 |
| | Wash Loss (#200/75um) | 1.0 | % | 0-3 |
| | Total Moisture | 4.46 | % | |

# Aggregate Optimization Chart

Production Gradation Report

**PLANT #:** 12

Sample Date: 12/4/23

Concrete Grade: **DM, 4500HP**

Dates Test Represents: 12/5/2023 through 12/11/2023

Contractor: _____

MDOT No.: _____

| Agg. Class | Pit # | Source | Weight (SSD) | ft³ | Specific Gravity | % Contribution |
|---|---|---|---|---|---|---|
| 6AA | 71-47 | Presque Isle | 1450 | 8.87 | 2.62 | 49.9 |
| 26A | 71-47 | Presque Isle | 305 | 1.87 | 2.62 | 10.5 |
| 2NS | 63-115 | Ray 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" | 99.2 | 100.0 | 100.0 | 99.6 | 0.4 | 0.4 |
| 3/4" | 83.6 | 100.0 | 100.0 | 91.8 | 7.8 | 8.2 |
| 1/2" | 52.0 | 95.1 | 100.0 | 75.5 | 16.3 | 24.5 |
| 3/8" | 33.2 | 82.5 | 100.0 | 64.8 | 10.7 | 35.2 |
| #4 | 5.2 | 19.0 | 96.3 | 42.7 | 22.1 | 57.3 |
| #8 | 1.7 | 5.0 | 80.0 | 33.0 | 9.7 | 67.0 |
| #16 | 1.3 | 2.7 | 64.3 | 26.4 | 6.7 | 73.6 |
| #30 | 1.2 | 2.1 | 48.7 | 20.1 | 6.3 | 79.9 |
| #50 | 1.2 | 1.9 | 25.4 | 10.9 | 9.2 | 89.1 |
| #100 | 1.1 | 1.7 | 5.7 | 3.0 | 7.9 | 97.0 |
| LBW | 1.1 | 1.6 | 1.0 | 1.1 | 1.9 | 98.9 |


**Superior Materials, LLC**
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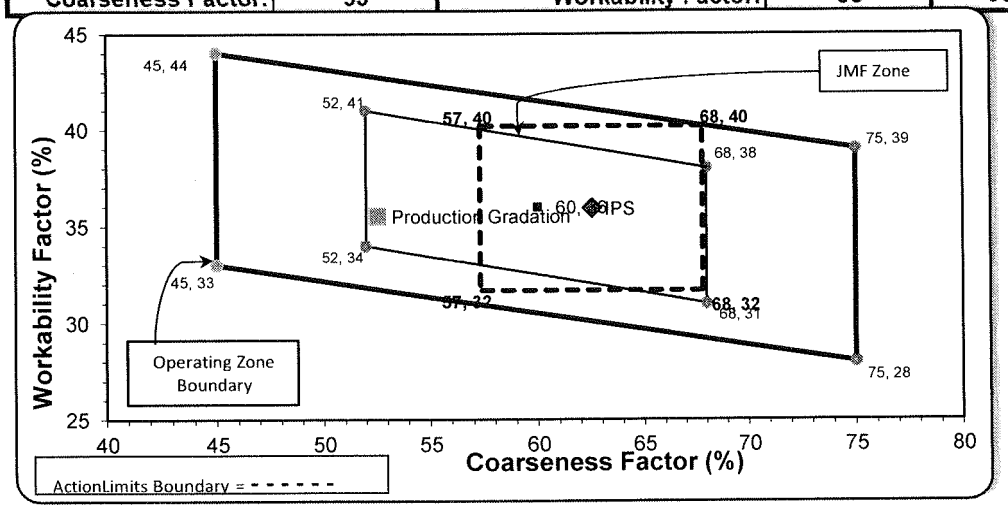
Farmington Hills, MI 48336


*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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

| Coarseness Factor: | 53 | Workability Factor: | 33 | Adjusted WF | 35.5 |
|---|---|---|---|---|---|




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" | 99.3 | 0.7 | 0.7 |
| 3/4" | 89.0 | 10.3 | 11.0 |
| 1/2" | 70.3 | 18.7 | 29.7 |
| 3/8" | 59.9 | 10.4 | 40.1 |
| #4 | 41.9 | 18.0 | 58.1 |
| #8 | 35.9 | 6.0 | 64.1 |
| #16 | 27.8 | 8.2 | 72.2 |
| #30 | 18.9 | 8.8 | 81.1 |
| #50 | 6.3 | 12.6 | 93.7 |
| #100 | 1.7 | 4.6 | 98.3 |
| LBW | 1.0 | 0.7 | 99.0 |

PREPARED BY:
SM, LLC Technical Service

Approved By:

SUPERIOR MATERIALS

**Plant** S12-Onsite Southfield

**Product** 1051-6AA LS

**Period:** 12/03/2023 - 12/09/2023

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

**Report Date** 12/08/2023

| Procedure | Sieve/Test | Result | Unit | 6AA LS |
|---|---|---|---|---|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 100.0 | % | 100-100 |
| | 1" (25mm) | 99.2 | % | 95-100 |
| | 3/4" (19mm) | 83.6 | % | |
| | 1/2" (12.5mm) | 52.0 | % | 30-60 |
| | 3/8" (9.5mm) | 33.2 | % | |
| | #4 (4.75mm) | 5.2 | % | 0-8 |
| | #8 (2.36mm) | 1.7 | % | |
| | #16 (1.18mm) | 1.3 | % | |
| | #30 (.6mm) | 1.2 | % | |
| | #50 (.3mm) | 1.2 | % | |
| | #100 (.15mm) | 1.1 | % | |
| | #200 (75µm) | 1.10 | % | |
| | Wash Loss (#200/75um) | 1.1 | % | 0-2 |
| | Total Moisture | 3.29 | % | |

Plant S12-Onsite Southfield

Product 1067-26A Mod LS

Period: 12/03/2023 - 12/09/2023

Name/Title Doug Storey / QC Technician

Report Date 12/08/2023

| 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) | 95.1 | % | 95-100 |
| | 3/8" (9.5mm) | 82.5 | % | 60-95 |
| | #4 (4.75mm) | 19.0 | % | 5-30 |
| | #8 (2.36mm) | 5.0 | % | 0-12 |
| | #16 (1.18mm) | 2.7 | % | |
| | #30 (.6mm) | 2.1 | % | |
| | #50 (.3mm) | 1.9 | % | |
| | #100 (.15mm) | 1.7 | % | |
| | #200 (75µm) | 1.6 | % | |
| | Wash Loss (#200/75um) | 1.6 | % | 0-3 |
| | Total Moisture | 4.11 | % | |

Plant S12-Onsite Southfield

Product 1022-2NS GR

Period: 12/03/2023 - 12/09/2023

Name/Title Doug Storey / QC Technician

Report Date 12/08/2023

| Procedure | Sieve/Test | Result | Unit | 2NS GR Spec |
|---|---|---|---|---|
| | 3/8" (9.5mm) | 100.0 | % | 100-100 |
| | #4 (4.75mm) | 96.3 | % | 95-100 |
| | #8 (2.36mm) | 80.0 | % | 65-95 |
| | #16 (1.18mm) | 64.3 | % | 35-75 |
| | #30 (.6mm) | 48.7 | % | 20-55 |
| | #50 (.3mm) | 25.4 | % | 10-30 |
| | #100 (.15mm) | 5.7 | % | 0-10 |
| | #200 (75µm) | 1.3 | % | |
| | FM | 2.80 | | 2.6-3 |
| | Wash Loss (#200/75um) | 1.0 | % | 0-3 |
| | Total Moisture | 4.72 | % | |

# Aggregate Optimization Chart

Production Gradation Report

**PLANT #:** P-32

Sample Date: 12/4/23

Dates Test Represents: 12/5/2023 through 12/11/2023

Concrete Grade: **DM, 4500HP**

Contractor: _____

MDOT No.: _____

| Agg. Class | Pit # | Source | Weight (SSD) | ft³ | Specific Gravity | % Contribution |
|---|---|---|---|---|---|---|
| 6AA | 71-47 | Presque Isle | 1605 | 9.82 | 2.62 | 55.2 |
| 26A | 71-47 | Presque Isle | 150 | 0.92 | 2.62 | 5.2 |
| 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" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 3/4" | 80.7 | 100.0 | 100.0 | 89.3 | 10.7 | 10.7 |
| 1/2" | 44.9 | 94.1 | 100.0 | 69.3 | 20.1 | 30.7 |
| 3/8" | 25.5 | 83.8 | 100.0 | 58.0 | 11.3 | 42.0 |
| #4 | 4.3 | 21.2 | 96.3 | 41.6 | 16.4 | 58.4 |
| #8 | 2.6 | 4.8 | 85.5 | 35.5 | 6.1 | 64.5 |
| #16 | 2.3 | 2.6 | 70.7 | 29.4 | 6.1 | 70.6 |
| #30 | 2.2 | 2.2 | 50.6 | 21.4 | 8.0 | 78.6 |
| #50 | 2.1 | 2.0 | 23.7 | 10.6 | 10.7 | 89.4 |
| #100 | 2.0 | 1.8 | 7.2 | 4.0 | 6.6 | 96.0 |
| LBW | 1.7 | 1.6 | 1.5 | 1.6 | 2.4 | 98.4 |


**Superior Materials, LLC**
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Suite 500
Farmington Hills, MI 48336


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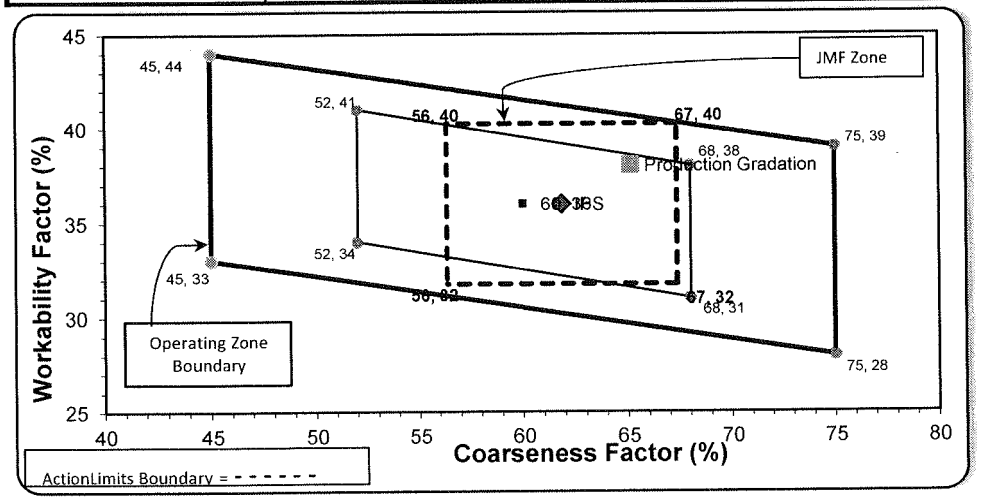
*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

| Coarseness Factor: | 65 | Workability Factor: | 36 | Adjusted WF: 38.0 |
|---|---|---|---|---|




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 |

Approved By:

PREPARED BY:
SM, LLC Technical Service

# Edw. C. Levy Co.

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

**Plant** 958-JMT

**Product** 1054-6AA LS PI

**Period:** 12/03/2023 - 12/09/2023

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

**Report Date** 12/08/2023

| Procedure | Sieve/Test | Result | Unit | 6AA LS PI Spec |
|---|---|---|---|---|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 100.0 | % | 100-100 |
| | 1" (25mm) | 100.0 | % | 95-100 |
| | 3/4" (19mm) | 80.7 | % | |
| | 1/2" (12.5mm) | 44.9 | % | 30-60 |
| | 3/8" (9.5mm) | 25.5 | % | |
| | #4 (4.75mm) | 4.3 | % | 0-8 |
| | #8 (2.36mm) | 2.6 | % | |
| | #16 (1.18mm) | 2.3 | % | |
| | #30 (.6mm) | 2.2 | % | |
| | #50 (.3mm) | 2.1 | % | |
| | #100 (.15mm) | 2.0 | % | |
| | #200 (75µm) | 1.8 | % | |
| | Wash Loss (#200/75um) | 1.7 | % | 0-2 |
| | Total Moisture | 3.9 | % | |

# Edw. C. Levy Co.

JMT
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Detroit, 48209
(313) 429-2429

Plant 958-JMT

Product 1067-26A Mod LS

Period: 12/03/2023 - 12/09/2023

Name/Title Doug Storey / QC Technician

Report Date 12/08/2023

| 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) | 94.1 | % | 95-100 |
| | 3/8" (9.5mm) | 83.8 | % | 60-95 |
| | #4 (4.75mm) | 21.2 | % | 5-30 |
| | #8 (2.36mm) | 4.8 | % | 0-12 |
| | #16 (1.18mm) | 2.6 | % | |
| | #30 (.6mm) | 2.2 | % | |
| | #50 (.3mm) | 2.0 | % | |
| | #100 (.15mm) | 1.8 | % | |
| | #200 (75µm) | 1.7 | % | |
| | Wash Loss (#200/75um) | 1.6 | % | 0-3 |
| | Total Moisture | 3.9 | % | |

# Edw. C. Levy Co.

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

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Period: 12/03/2023 - 12/09/2023

Name/Title Doug Storey / QC Technician

Report Date 12/08/2023

| Procedure | Sieve/Test | Result | Unit | 2NS GR Spec |
|---|---|---|---|---|
| | 3/8" (9.5mm) | 100.0 | % | 100-100 |
| | #4 (4.75mm) | 96.3 | % | 95-100 |
| | #8 (2.36mm) | 85.5 | % | 65-95 |
| | #16 (1.18mm) | 70.7 | % | 35-75 |
| | #30 (.6mm) | 50.6 | % | 20-55 |
| | #50 (.3mm) | 23.7 | % | 10-30 |
| | #100 (.15mm) | 7.2 | % | 0-10 |
| | #200 (75µm) | 1.8 | % | |
| | FM | 2.66 | | 2.6-3 |
| | Wash Loss (#200/75um) | 1.5 | % | 0-3 |
| | Total Moisture | 5.2 | % | |

# Aggregate Optimization Chart

Production Gradation Report

**PLANT #:** P-103

Sample Date: 12/4/23

Concrete Grade: DM, 4500HP

Dates Test Represents: 12/5/2023 through 12/11/2023

Contractor: _____

MDOT No.: _____

| Agg. Class | Pit # | Source | Weight (SSD) | ft³ | Specific Gravity | % Contribution |
|---|---|---|---|---|---|---|
| 6AA | 58-003 | Stoneco | 1450 | 8.64 | 2.69 | 49.2 |
| 26A | 58-003 | Stoneco | 350 | 2.09 | 2.69 | 11.9 |
| 2NS | 81-019 | Pleasant Lake | 1150 | 6.95 | 2.65 | 39.0 |
| | | **Total Wt** | **2950** | **17.68** | | 100.0 |

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

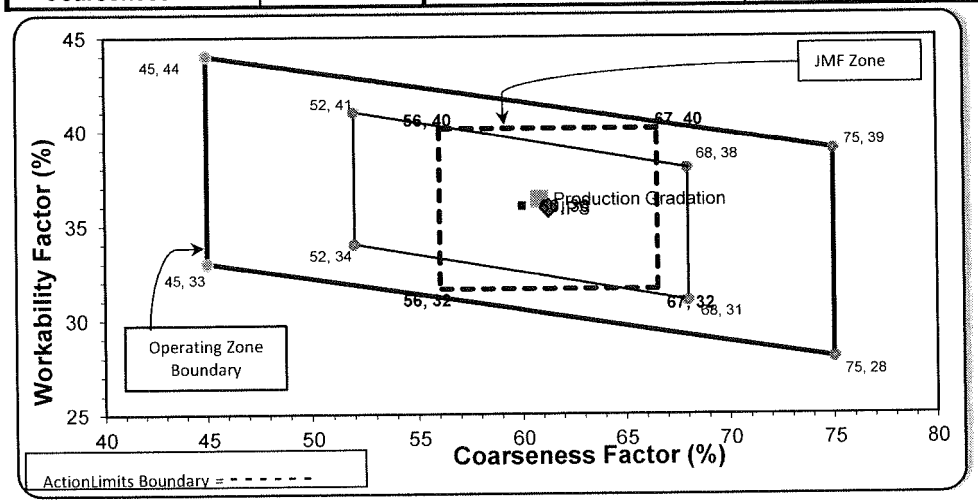
| Sieve | 6AA | 26A | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained |
|---|---|---|---|---|---|---|
| 2" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1.5" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1" | 98.3 | 100.0 | 100.0 | 99.2 | 0.8 | 0.8 |
| 3/4" | 78.3 | 100.0 | 100.0 | 89.3 | 9.8 | 10.7 |
| 1/2" | 35.3 | 98.3 | 100.0 | 68.0 | 21.3 | 32.0 |
| 3/8" | 20.4 | 90.7 | 100.0 | 59.8 | 8.2 | 40.2 |
| #4 | 3.3 | 10.3 | 98.2 | 41.1 | 18.6 | 58.9 |
| #8 | 1.5 | 3.6 | 83.9 | 33.9 | 7.3 | 66.1 |
| #16 | 1.2 | 2.4 | 65.5 | 26.4 | 7.5 | 73.6 |
| #30 | 1.1 | 2.0 | 45.1 | 18.4 | 8.0 | 81.6 |
| #50 | 1.0 | 1.8 | 18.1 | 7.8 | 10.6 | 92.2 |
| #100 | 1.0 | 1.8 | 4.2 | 2.3 | 5.4 | 97.7 |
| LBW | 1.0 | 1.7 | 0.8 | 1.0 | 1.3 | 99.0 |


**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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

| Coarseness Factor: | 61 | Workability Factor: | 34 | Adjusted WF: 36.4 |
|---|---|---|---|---|




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 |

PREPARED BY:
SM, LLC Technical Service

Approved BY:

SUPERIOR MATERIALS

**Plant** S103-Superior Brighton

**Product** 1051-6AA LS

**Period:** 12/03/2023 - 12/09/2023

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

**Report Date** 12/08/2023

| Procedure | Sieve/Test | Result | Unit | 6AA LS |
|---|---|---|---|---|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 100.0 | % | 100-100 |
| | 1" (25mm) | 98.3 | % | 95-100 |
| | 3/4" (19mm) | 78.3 | % | |
| | 1/2" (12.5mm) | 35.3 | % | 30-60 |
| | 3/8" (9.5mm) | 20.4 | % | |
| | #4 (4.75mm) | 3.3 | % | 0-8 |
| | #8 (2.36mm) | 1.5 | % | |
| | #16 (1.18mm) | 1.2 | % | |
| | #30 (.6mm) | 1.1 | % | |
| | #50 (.3mm) | 1.0 | % | |
| | #100 (.15mm) | 1.0 | % | |
| | #200 (75µm) | 0.99 | % | |
| | Wash Loss (#200/75um) | 1.0 | % | 0-2 |

Plant S103-Superior Brighton

Product 1067-26A Mod LS

Period: 12/03/2023 - 12/09/2023

Name/Title Doug Storey / QC Technician

Report Date 12/08/2023

| 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) | 98.3 | % | 95-100 |
| | 3/8" (9.5mm) | 90.7 | % | 60-95 |
| | #4 (4.75mm) | 10.3 | % | 5-30 |
| | #8 (2.36mm) | 3.6 | % | 0-12 |
| | #16 (1.18mm) | 2.4 | % | |
| | #30 (.6mm) | 2.0 | % | |
| | #50 (.3mm) | 1.8 | % | |
| | #100 (.15mm) | 1.8 | % | |
| | #200 (75µm) | 1.7 | % | |
| | Wash Loss (#200/75um) | 1.7 | % | 0-3 |

SUPERIOR MATERIALS

Plant S103-Superior Brighton

Product 1022-2NS GR

Period: 12/03/2023 - 12/09/2023

Name/Title Doug Storey / QC Technician

Report Date 12/08/2023

| 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) | 83.9 | % | 65-95 |
| | #16 (1.18mm) | 65.5 | % | 35-75 |
| | #30 (.6mm) | 45.1 | % | 20-55 |
| | #50 (.3mm) | 18.1 | % | 10-30 |
| | #100 (.15mm) | 4.2 | % | 0-10 |
| | #200 (75µm) | 1.2 | % | |
| | FM | 2.85 | | 2.6-3 |
| | Wash Loss (#200/75um) | 0.8 | % | 0-3 |