

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **p11**

Sample Date: **9/30/24**

Dates Test Represents: **10/1/2024** through **10/7/2024**

Concrete Grade: **S2M, 3500HP**

Contractor: _____

MDOT No.: _____

| Agg. Class | Pit # | Source | Weight (ssd) | ft ³ | Specific Gravity | Contribution % |
|------------|--------|--------------|--------------|-----------------|------------------|----------------|
| 6AA | 71-47 | Presque Isle | 1420 | 8.69 | 2.62 | 46.6 |
| 26A | 71-47 | Presque Isle | 400 | 2.45 | 2.62 | 13.1 |
| 2NS | 63-115 | Ray Rd | 1230 | 7.44 | 2.65 | 40.3 |
| Total Wt | | | 3050 | 18.57 | | 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" | 98.9 | 100.0 | 100.0 | 99.5 | 0.5 | 0.5 |
| 3/4" | 85.3 | 100.0 | 100.0 | 93.2 | 6.3 | 6.8 |
| 1/2" | 53.0 | 95.2 | 100.0 | 77.5 | 15.7 | 22.5 |
| 3/8" | 33.4 | 83.7 | 100.0 | 66.9 | 10.6 | 33.1 |
| #4 | 5.6 | 14.4 | 95.7 | 43.1 | 23.8 | 56.9 |
| #8 | 2.2 | 2.9 | 82.2 | 34.6 | 8.5 | 65.4 |
| #16 | 1.9 | 1.7 | 68.7 | 28.8 | 5.7 | 71.2 |
| #30 | 1.9 | 1.4 | 55.0 | 23.2 | 5.6 | 76.8 |
| #50 | 1.8 | 1.3 | 31.1 | 13.6 | 9.7 | 86.4 |
| #100 | 1.8 | 1.3 | 8.5 | 4.4 | 9.1 | 95.6 |
| LBW | 1.5 | 1.2 | 1.3 | 1.4 | 3.1 | 98.6 |

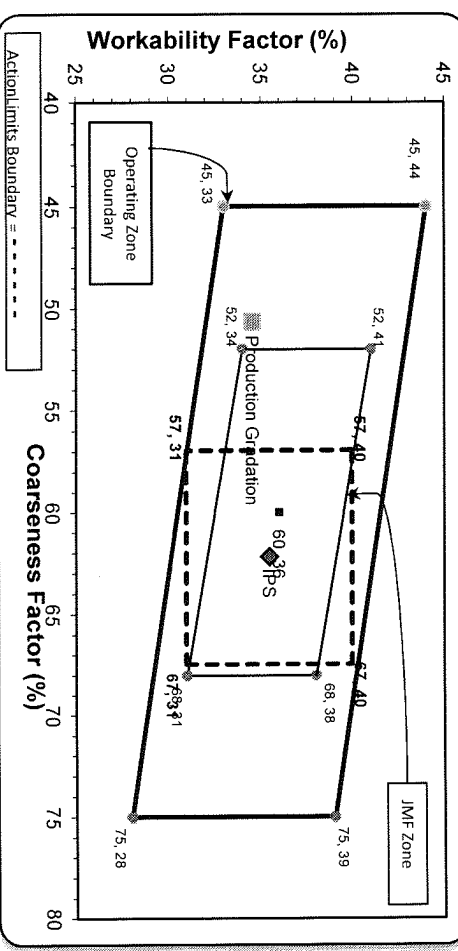
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max.
 nom. max. #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max.
 nom. max. #100 and #200 sieves.
 *% Retained must be at least 4% for the 3/4" sieve when
 a 1.5" max. size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

Coarseness Factor: **51** Workability Factor: **35**



Initial Production Sample (IPS)

Coarseness Factor: **62** 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" | 94.0 | 6.0 | 6.0 |
| 1/2" | 70.2 | 23.7 | 29.8 |
| 3/8" | 59.9 | 10.4 | 40.1 |
| #4 | 42.7 | 17.2 | 57.3 |
| #8 | 35.5 | 7.2 | 64.5 |
| #16 | 28.4 | 7.0 | 71.6 |
| #30 | 19.2 | 9.2 | 80.8 |
| #50 | 8.9 | 10.3 | 91.1 |
| #100 | 3.1 | 5.9 | 96.9 |
| LBW | 1.4 | 1.7 | 98.6 |

PREPARED BY:
 SM, LLC Technical Service

Approved By: _____

Daily Summary Report

Date Tuesday, October 1, 2024

Sample Id -1989624528 - 674896081

-674951888

Plant Superior Onsite

Superior Onsite

Superior Onsite

Product 1051
 6AA LS

1067
 26A Mod LS

1022
 2NS GR

Specification

26A Mod LS Spec

2NS GR Spec

| Sample Type | QA | QA | QA |
|-----------------------|-------|-------|-------|
| Time | 15:00 | 15:01 | 15:03 |
| 2" (50mm) | 100.0 | 100.0 | 100.0 |
| 1 1/2" (37.5mm) | 100.0 | 100.0 | 95.7 |
| 1" (25mm) | 98.9 | 100.0 | 82.2 |
| 3/4" (19mm) | 85.3 | 100.0 | 68.7 |
| 1/2" (12.5mm) | 53.0 | 95.2 | 55.0 |
| 3/8" (9.5mm) | 33.4 | 83.7 | 31.1 |
| #4 (4.75mm) | 5.6 | 14.4 | 8.5 |
| #8 (2.36mm) | 2.2 | 2.9 | 1.6 |
| #16 (1.18mm) | 1.9 | 1.7 | 0.0 |
| #30 (.6mm) | 1.9 | 1.4 | 2.59 |
| #50 (.3mm) | 1.8 | 1.3 | 1.6 |
| #100 (.15mm) | 1.8 | 1.3 | 1.3 |
| #200 (75µm) | 1.65 | 1.2 | 1.3 |
| Pan | 0.00 | 0.0 | 4.7 |
| FM | | | |
| -#200 (75µm) | 1.5 | 1.2 | |
| Wash Loss (#200/75µm) | 3.5 | 3.0 | |
| Total Moisture | | | |

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Sample Date: **9/30/24**

Dates Test Represents: **10/1/2024** through **10/7/2024**

Concrete Grade: **S2M, 3500HP**

Contractor: _____

MDOT No.: _____



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

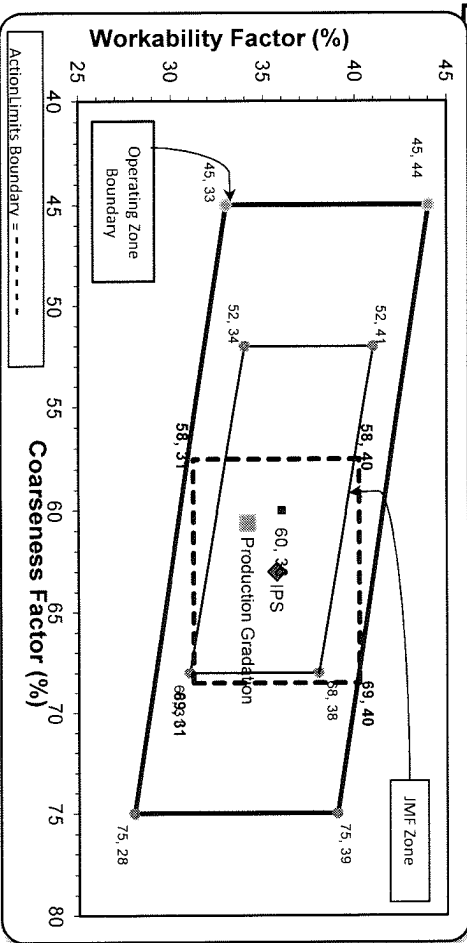
| Aggr. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | Contribution % | |
|------------------|--------|----------|--------------|-----------------|------------------|----------------|--------------|
| 6AA | 58-003 | Stonoco | 1600 | 9.53 | 2.69 | 51.6 | |
| 26A | 58-003 | Stonoco | 300 | 1.79 | 2.69 | 9.7 | |
| 2NS | 63-114 | Highland | 1200 | 7.26 | 2.65 | 38.7 | |
| Total Wt: | | | | | | 3100 | 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" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 3/4" | 90.8 | 100.0 | 100.0 | 95.3 | 4.7 | 4.7 |
| 1/2" | 50.0 | 100.0 | 100.0 | 74.2 | 21.1 | 25.8 |
| 3/8" | 24.2 | 92.0 | 100.0 | 60.1 | 14.1 | 39.9 |
| #4 | 3.7 | 9.1 | 99.0 | 41.1 | 19.0 | 58.9 |
| #8 | 1.6 | 2.9 | 85.4 | 34.2 | 6.9 | 65.8 |
| #16 | 1.4 | 2.3 | 65.7 | 26.4 | 7.8 | 73.6 |
| #30 | 1.3 | 2.1 | 44.6 | 18.1 | 8.2 | 81.9 |
| #50 | 1.2 | 2.0 | 21.1 | 9.0 | 9.2 | 91.0 |
| #100 | 1.1 | 1.9 | 4.4 | 2.5 | 6.5 | 97.5 |
| LBW | 1.0 | 1.7 | 0.5 | 0.9 | 1.6 | 99.1 |

*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**

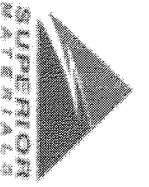


Initial Production Sample (IPS)

| Sieve | % Retained | Cumulative % Retained |
|-------|------------|-----------------------|
| 2" | 0.0 | 0.0 |
| 1.5" | 0.0 | 0.0 |
| 1" | 0.8 | 0.8 |
| 3/4" | 8.3 | 9.1 |
| 1/2" | 19.6 | 28.7 |
| 3/8" | 40.5 | 40.5 |
| #4 | 56.2 | 56.2 |
| #8 | 64.3 | 64.3 |
| #16 | 73.0 | 73.0 |
| #30 | 81.4 | 81.4 |
| #50 | 93.2 | 93.2 |
| #100 | 98.6 | 98.6 |
| LBW | 99.4 | 99.4 |

PREPARED BY:
SM, LLC Technical Service

Approved BY: _____



Daily Summary Report

Date Monday, September 30, 2024

| Sample Id | -674942931 | -674922450 | -674945861 |
|-----------------------|---------------------------|---------------------------|---------------------------|
| Plant | S103 Superior Brighton | S103 Superior Brighton | S103 Superior Brighton |
| Product | 1051 6AA LS | 1067 26A Mod LS | 1022 ZNS GR |
| Specification | 6AA LS | 26A Mod LS Spec | ZNS GR Spec |
| Sample Type | QA | QA | QA |
| Time | 14:55 | 14:57 | 14:59 |
| 2" (50mm) | 100.0 | 100.0 | 100.0 |
| 1 1/2" (37.5mm) | 100.0 | 100.0 | 99.0 |
| 1" (25mm) | 100.0 | 100.0 | 85.4 |
| 3/4" (19mm) | 90.8 | 100.0 | 65.7 |
| 1/2" (12.5mm) | 50.0 | 100.0 | 44.6 |
| 3/8" (9.5mm) | 24.2 | 92.0 | 21.1 |
| #4 (4.75mm) | 3.7 | 9.1 | 4.4 |
| #8 (2.36mm) | 1.6 | 2.9 | 0.6 |
| #16 (1.18mm) | 1.4 | 2.3 | 0.0 |
| #30 (.6mm) | 1.3 | 2.1 | 2.80 |
| #50 (.3mm) | 1.2 | 2.0 | 0.5 |
| #100 (.15mm) | 1.1 | 1.9 | |
| #200 (75µm) | 1.08 | 1.8 | |
| Pan | 0.00 | 0.0 | |
| FM | | | |
| Wash Loss (#200/75µm) | 1.0 | 1.7 | |
| Total Moisture | 2.55 | 3.43 | 3.73 |