

Aggregate Optimization Chart

MIX ID'S: DDS257E7 and DDS257E8

Production Gradation Report

PLANT #: **P-103**

Sample Date: 2/6/17

Concrete Grade: **S2M**

Contractor: _____

Dates Test Represents: 2/6/2017 to 2/12/2017

MDOT No.: _____

| Agg. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | % Contribution |
|-----------------|--------|------------|--------------|-----------------|------------------|----------------|
| 6AA | 58-003 | Stoneco | 1415 | 8.43 | 2.69 | 44.8 |
| 26A | 58-003 | Stoneco | 450 | 2.68 | 2.69 | 14.3 |
| 2NS | 81-93 | Burmeister | 1290 | 7.83 | 2.64 | 40.9 |
| Total Wt | | | 3155 | 18.94 | | 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" | 80.3 | 100.0 | 100.0 | 91.2 | 8.8 | 8.8 |
| 1/2" | 38.6 | 99.2 | 100.0 | 72.3 | 18.8 | 27.7 |
| 3/8" | 15.3 | 88.7 | 100.0 | 60.4 | 11.9 | 39.6 |
| #4 | 2.0 | 5.7 | 99.5 | 42.4 | 18.0 | 57.6 |
| #8 | 1.1 | 2.1 | 87.1 | 36.4 | 6.0 | 63.6 |
| #16 | 0.8 | 1.9 | 73.1 | 30.5 | 5.9 | 69.5 |
| #30 | 0.8 | 1.8 | 54.5 | 22.9 | 7.6 | 77.1 |
| #50 | 0.7 | 1.7 | 22.3 | 9.7 | 13.2 | 90.3 |
| #100 | 0.7 | 1.6 | 3.1 | 1.8 | 7.9 | 98.2 |
| LBW | 0.5 | 1.3 | 0.8 | 0.7 | 1.1 | 99.3 |

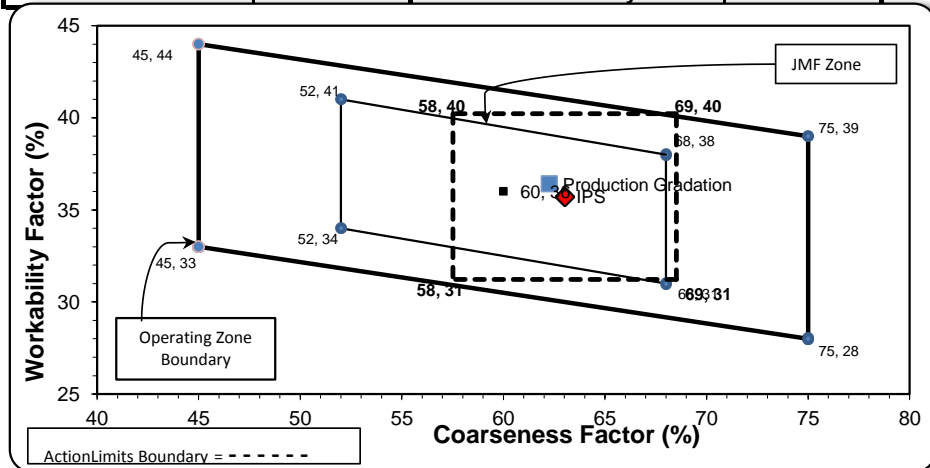


Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

*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: | 62 | Workability Factor: | 36 |
|---------------------------|-----------|----------------------------|-----------|



Initial 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" | 99.2 | 0.8 | 0.8 |
| 3/4" | 90.9 | 8.3 | 9.1 |
| 1/2" | 71.3 | 19.6 | 28.7 |
| 3/8" | 59.5 | 11.8 | 40.5 |
| #4 | 43.8 | 15.7 | 56.2 |
| #8 | 35.7 | 8.1 | 64.3 |
| #16 | 27.0 | 8.7 | 73.0 |
| #30 | 18.6 | 8.4 | 81.4 |
| #50 | 6.8 | 11.8 | 93.2 |
| #100 | 1.4 | 5.4 | 98.6 |
| LBW | 0.6 | 0.8 | 99.4 |

PREPARED BY:
 SM, LLC Technical Service

Approved BY:

Aggregate Optimization Chart

MIX ID'S: DDS257E7 and DDS257E8

Production Gradation Report

PLANT #: **P-38**

Sample Date: 2/6/17

Concrete Grade: **S2M**

Contractor: _____

Dates Test Represents: 2/6/2017 to 2/12/2017

MDOT No.: _____

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| 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" | 80.3 | 100.0 | 100.0 | 91.2 | 8.8 | 8.8 |
| 1/2" | 38.6 | 99.2 | 100.0 | 72.3 | 18.8 | 27.7 |
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| #8 | 1.1 | 2.1 | 87.1 | 36.4 | 6.0 | 63.6 |
| #16 | 0.8 | 1.9 | 73.1 | 30.5 | 5.9 | 69.5 |
| #30 | 0.8 | 1.8 | 54.5 | 22.9 | 7.6 | 77.1 |
| #50 | 0.7 | 1.7 | 22.3 | 9.7 | 13.2 | 90.3 |
| #100 | 0.7 | 1.6 | 3.1 | 1.8 | 7.9 | 98.2 |
| LBW | 0.5 | 1.3 | 0.8 | 0.7 | 1.1 | 99.3 |

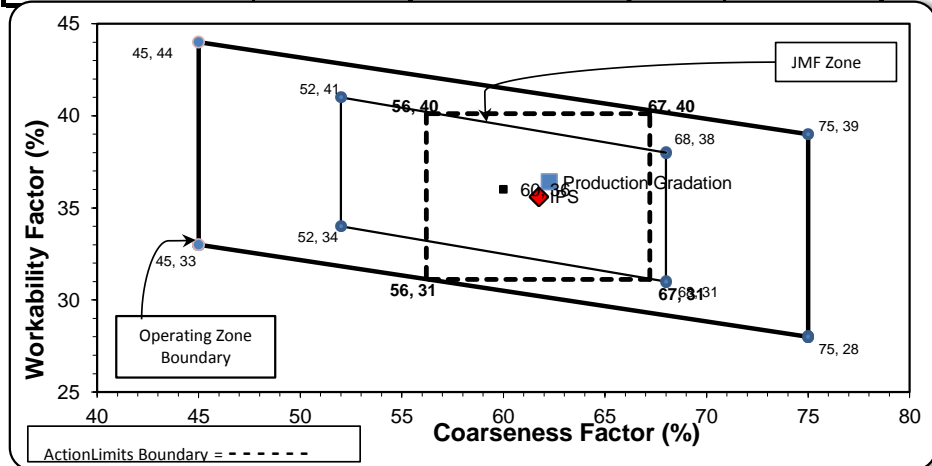
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Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **62** Workability Factor: **36**



Initial 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" | 99.2 | 0.8 | 0.8 |
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