

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-36**

Sample Date: **4/28/25**

Dates Test Represents: **4/29/2025** through **5/5/2025**

Concrete Grade: **P1M, 3500HP, 4000HP**

Contractor: _____

MDOT No.: _____

| Agg. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | % Contribution |
|-----------------|-------|--------------|--------------|-----------------|------------------|----------------|
| CA | 71-47 | Presque Isle | 870 | 5.32 | 2.62 | 28.3 |
| IA | 71-47 | Presque Isle | 1000 | 6.12 | 2.62 | 32.6 |
| 2NS | 63-92 | Grange Hall | 1200 | 7.26 | 2.65 | 39.1 |
| Total Wt | | | 3070 | 18.70 | | 100.0 |

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

| Sieve | CA | IA | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained |
|-------|-------|-------|-------|----------------------|------------|-----------------------|
| 2" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1.5" | 97.0 | 100.0 | 100.0 | 99.1 | 0.9 | 0.9 |
| 1" | 33.7 | 100.0 | 100.0 | 81.2 | 17.9 | 18.8 |
| 3/4" | 3.7 | 100.0 | 100.0 | 72.7 | 8.5 | 27.3 |
| 1/2" | 0.9 | 85.0 | 100.0 | 67.0 | 5.7 | 33.0 |
| 3/8" | 0.7 | 58.1 | 100.0 | 58.2 | 8.8 | 41.8 |
| #4 | 0.7 | 8.7 | 97.7 | 41.2 | 17.0 | 58.8 |
| #8 | 0.7 | 2.5 | 83.7 | 33.7 | 7.5 | 66.3 |
| #16 | 0.7 | 1.7 | 67.7 | 27.2 | 6.5 | 72.8 |
| #30 | 0.6 | 1.6 | 47.4 | 19.2 | 8.0 | 80.8 |
| #50 | 0.6 | 1.6 | 21.1 | 8.9 | 10.3 | 91.1 |
| #100 | 0.6 | 1.5 | 3.4 | 2.0 | 7.0 | 98.0 |
| LBW | 0.5 | 1.2 | 0.3 | 0.6 | 1.3 | 99.4 |

*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.



Superior Materials, LLC

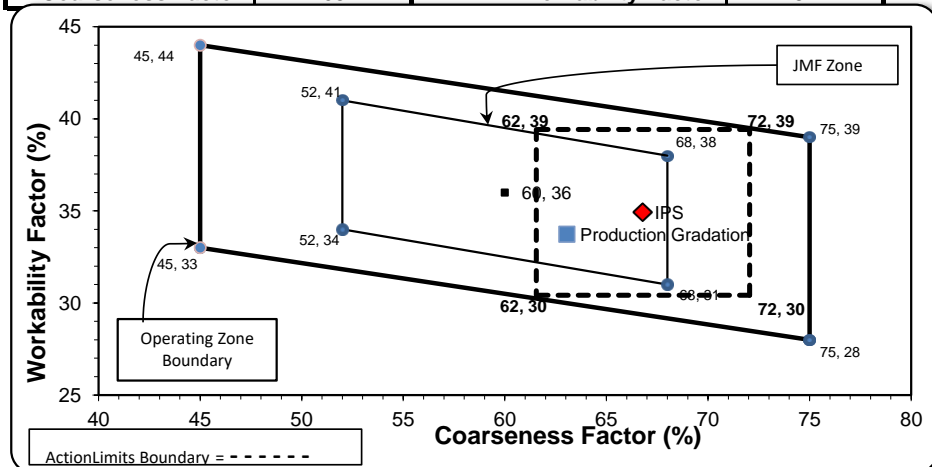
30701 W. 10 Mile Rd.

Suite 500

Farmington Hills, MI 48336

Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

| | | | |
|---------------------------|-----------|----------------------------|-----------|
| Coarseness Factor: | 63 | Workability Factor: | 34 |
|---------------------------|-----------|----------------------------|-----------|



Initial Production Sample (IPS)

| | | | |
|---------------------|-------------------------|---------------|--------------------------|
| Coarseness Factor: | | 67 | |
| 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" | 85.0 | 15.0 | 15.0 |
| 3/4" | 72.1 | 12.9 | 27.9 |
| 1/2" | 64.5 | 7.6 | 35.5 |
| 3/8" | 56.5 | 8.0 | 43.5 |
| #4 | 42.7 | 13.8 | 57.3 |
| #8 | 34.9 | 7.8 | 65.1 |
| #16 | 29.0 | 5.9 | 71.0 |
| #30 | 21.0 | 8.0 | 79.0 |
| #50 | 8.2 | 12.8 | 91.8 |
| #100 | 1.6 | 6.5 | 98.4 |
| LBW | 0.7 | 0.9 | 99.3 |

PREPARED BY:
SM, LLC Technical Service

Approved By:

[Signature]

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-O2**

Sample Date: 4/28/25

Dates Test Represents: 4/29/2025 through 5/5/2025

Concrete Grade: **P1M, 3500HP, 4000HP**

Contractor: _____

MDOT No.: _____

| Agg. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | % Contribution |
|-----------------|--------|--------------|--------------|-----------------|------------------|----------------|
| CA | 71-47 | Presque Isle | 870 | 5.32 | 2.62 | 28.3 |
| IA | 71-47 | Presque Isle | 1000 | 6.12 | 2.62 | 32.6 |
| 2NS | 63-115 | Ray Rd | 1200 | 7.26 | 2.65 | 39.1 |
| Total Wt | | | 3070 | 18.70 | | 100.0 |

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

| Sieve | CA | IA | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained |
|-------|-------|-------|-------|----------------------|------------|-----------------------|
| 2" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1.5" | 97.0 | 100.0 | 100.0 | 99.1 | 0.9 | 0.9 |
| 1" | 33.7 | 100.0 | 100.0 | 81.2 | 17.9 | 18.8 |
| 3/4" | 3.7 | 100.0 | 100.0 | 72.7 | 8.5 | 27.3 |
| 1/2" | 0.9 | 85.0 | 100.0 | 67.0 | 5.7 | 33.0 |
| 3/8" | 0.7 | 58.1 | 100.0 | 58.2 | 8.8 | 41.8 |
| #4 | 0.7 | 8.7 | 97.5 | 41.1 | 17.1 | 58.9 |
| #8 | 0.7 | 2.5 | 79.6 | 32.1 | 9.0 | 67.9 |
| #16 | 0.7 | 1.7 | 62.8 | 25.3 | 6.8 | 74.7 |
| #30 | 0.6 | 1.6 | 47.1 | 19.1 | 6.2 | 80.9 |
| #50 | 0.6 | 1.6 | 24.8 | 10.4 | 8.7 | 89.6 |
| #100 | 0.6 | 1.5 | 4.6 | 2.5 | 7.9 | 97.5 |
| LBW | 0.5 | 1.2 | 0.6 | 0.8 | 1.7 | 99.2 |

*Maximum % Retained must be above the 3/8" sieve.

*Any two adjacent sieves must equal 10% except max.,

nom. max., #100 and #200 sieves.

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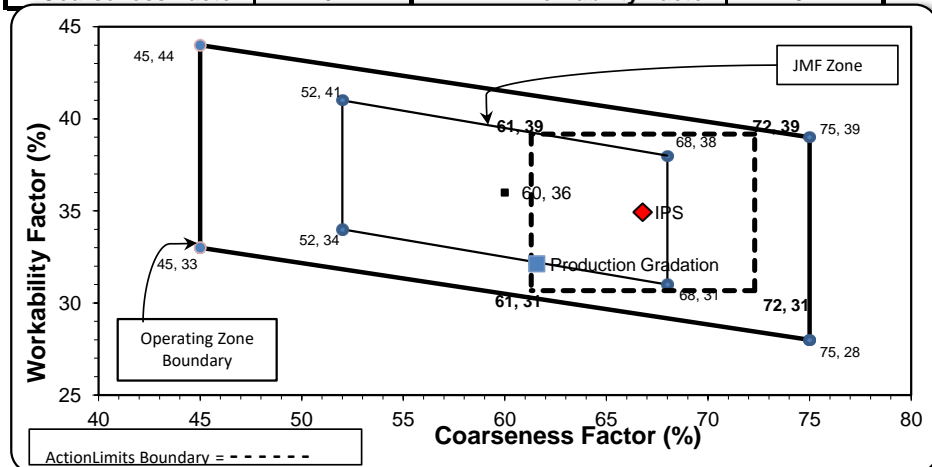
30701 W. 10 Mile Rd.

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|---------------------------|-----------|----------------------------|-----------|
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|---------------------------|-----------|----------------------------|-----------|



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| | | | |
|---------------------|-------------------------|---------------|--------------------------|
| Coarseness Factor: | | 67 | |
| 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" | 85.0 | 15.0 | 15.0 |
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| 1/2" | 64.5 | 7.8 | 35.5 |
| 3/8" | 56.5 | 8.0 | 43.5 |
| #4 | 42.7 | 13.8 | 57.3 |
| #8 | 34.9 | 7.8 | 65.1 |
| #16 | 29.0 | 5.9 | 71.0 |
| #30 | 21.0 | 8.0 | 79.0 |
| #50 | 8.2 | 12.8 | 91.8 |
| #100 | 1.6 | 6.5 | 98.4 |
| LBW | 0.7 | 0.9 | 99.3 |

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SM, LLC Technical Service

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