INDIANA DEPARTMENT OF TRANSPORTATION  
OFFICE OF MATERIALS MANAGEMENT  

VERIFYING SIEVES  
ITM No. 902-20  

1.0 SCOPE  

1.1 This test method covers the procedure for verifying the physical condition of laboratory testing sieves ranging in size from 4 in. to No. 200.  

1.2 Two procedures are included in this test method: verifying with calipers and verifying with a go-no go gauge. The Department will use the verifying with calipers method. Industry may utilize the procedure with a go-no go gauge upon approval of the Department.  

1.3 This ITM may involve hazardous materials, operations, and equipment and may not address all of the safety problems associated with the use of the test method. The user of the ITM is responsible for establishing appropriate safety and health practices and to determining the applicability of regulatory limitations prior to use.  

2.0 REFERENCES.  

2.1 ASTM Standards.  

E11 - Woven Wire Test Sieve Cloth and Test Sieves  

3.0 TERMINOLOGY. Definitions for terms and abbreviations shall be in accordance with the Department's Standard Specifications, Section 101.  

4.0 SIGNIFICANCE AND USE. This ITM is used by laboratory personnel to verify the physical condition of testing sieves.  

5.0 APPARATUS.  

5.1 Calipers, readable to 0.01 mm and having a jaw depth allowing the blades to stay perpendicular to the screen throughout the measurements.  

5.2 [Optional] Go-No Go Gauge, conforming to the tolerances shown in Table 1.  

6.0 PROCEDURE.  

6.1 Sieves #4 and Coarser With Calipers.  

6.1.1 Record the sieve identification, manufacturer, opening size and diameter.
6.1.2 Hold the sieve against a uniformly illuminated background. Check the
general condition of the sieve for cracks in frame, broken solder joints,
wire tightness, and irregular openings.

6.1.3 Select two perpendicular fields of five openings each for verification.
(Appendix A - Figure 1)

6.1.4 Using the calipers, measure and record the openings at their vertical (Y)
and horizontal (X) midpoints (Appendix A - Figure 2). Keep the X and Y
components separate and calculate the average of all 10 X measurements
and all 10 Y measurements.

6.2 Sieves #4 and Coarser With Go-No Go Gauge.

6.2.1 Specific procedures for checking sieves with a go-no go gauge
shall be developed by the Industry end user and included as a part
of their Quality Control Plan, subject to approval by the
Department.

6.3 Sieves Finer than #4.

6.3.1 Record the sieve identification, manufacturer, opening size and diameter.

6.3.2 Hold the sieve against a uniformly illuminated background. Check and
record the general condition of the sieve for cracks in frame, broken solder
joints, weaving defects, creases, wrinkles, wire tightness, and irregular
openings.

7.0 TOLERANCE.

7.1 Sieves #4 and Coarser. The maximum individual opening and average
opening for each sieve shall not exceed the sieve tolerances of Table 1. If the
tolerances of Table 1 are exceeded or there are general physical condition
deficiencies as noted in 6.1.2, the sieve shall be replaced.

7.2 Sieves Finer than #4. If there are general physical condition deficiencies as
noted in 6.2.2, the sieve shall be replaced.
## SIEVE TOLERANCES

### TABLE 1

<table>
<thead>
<tr>
<th>Sieve Designation</th>
<th>Permissible Average Opening</th>
<th>Maximum Individual Opening</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 mm (4 in.)</td>
<td>(97.35 - 102.65) mm</td>
<td>103.44 mm</td>
</tr>
<tr>
<td>90 mm (3 ½ in.)</td>
<td>(87.61 - 92.39) mm</td>
<td>93.18 mm</td>
</tr>
<tr>
<td>75 mm (3 in.)</td>
<td>(73.00 - 77.00) mm</td>
<td>77.78 mm</td>
</tr>
<tr>
<td>63 mm (2 ½ in.)</td>
<td>(61.31 - 64.69) mm</td>
<td>65.44 mm</td>
</tr>
<tr>
<td>50 mm (2 in.)</td>
<td>(48.66 - 51.34) mm</td>
<td>52.06 mm</td>
</tr>
<tr>
<td>37.5 mm (1 ½ in.)</td>
<td>(36.49 - 38.51) mm</td>
<td>39.17 mm</td>
</tr>
<tr>
<td>25 mm (1 in.)</td>
<td>(24.32 - 25.68) mm</td>
<td>26.24 mm</td>
</tr>
<tr>
<td>19 mm (3/4 in.)</td>
<td>(18.48 - 19.52) mm</td>
<td>20.01 mm</td>
</tr>
<tr>
<td>12.5 mm (1/2 in.)</td>
<td>(12.15 - 12.85) mm</td>
<td>13.25 mm</td>
</tr>
<tr>
<td>9.5 mm (3/8 in.)</td>
<td>(9.24 - 9.76) mm</td>
<td>10.11 mm</td>
</tr>
<tr>
<td>4.75 mm (No. 4)</td>
<td>(4.62 - 4.88) mm</td>
<td>5.12 mm</td>
</tr>
</tbody>
</table>

Tolerances for sieves not in Table 1 may be found in ASTM E11
SIEVE VERIFICATION
ITM 902

Sieve Identification: __________________  Manufacturer: __________________  Opening Size: __________
Frame Diameter: __________  Calipers (if used): __________________

General Physical Condition

<table>
<thead>
<tr>
<th>Sieves No. 4 or Coarser</th>
<th>√</th>
<th>Sieves Finer than No. 4</th>
<th>√</th>
</tr>
</thead>
<tbody>
<tr>
<td>The frame is not cracked</td>
<td></td>
<td>The frame is not cracked</td>
<td></td>
</tr>
<tr>
<td>The welds are not broken</td>
<td></td>
<td>The welds are not broken</td>
<td></td>
</tr>
<tr>
<td>The wires are tight</td>
<td></td>
<td>No weaving defects, creases or wrinkles</td>
<td></td>
</tr>
<tr>
<td>No irregular opening apparent</td>
<td></td>
<td>The screen is tight</td>
<td></td>
</tr>
<tr>
<td>No irregular opening apparent</td>
<td></td>
<td>No irregular opening apparent</td>
<td></td>
</tr>
</tbody>
</table>

Opening Verification #4 and Coarser

<table>
<thead>
<tr>
<th>Field 1</th>
<th>Field 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Y</td>
</tr>
<tr>
<td>average X =</td>
<td>average Y =</td>
</tr>
</tbody>
</table>

Figure 1

Field 1: O  Field 2: X

Figure 2

X

Y

Remarks: _____________________________________________________________________________________________

Verified by: _____________________________  Date: __________________________________________

Next Due Date: ______________________________