1. **SCOPE**

1.1. **Description of Test**

This method describes the procedure for determining the particle size distribution of fine and coarse aggregates for concrete or soil cement construction.

2. **APPARATUS AND MATERIALS**

2.1. **Equipment Required**

- Balance - sensitive to 0.1 g.
- Sieves - Canadian Metric Standard square mesh sieves of size as required in the specifications for the material being tested.
- Mechanical sieve shaker.
- Containers - pans suitable for washing the sample.
- Drying apparatus - suitable pans and stove for drying the sample.

3. **PROCEDURE**

3.1. **Sample preparation**

Obtain a sample from a plant or other source as described in STP 105 or as otherwise directed.

Mix sample well and break up any clay lumps; especially in fine grained materials.

Use a quartering method or sample splitter to reduce sample to appropriate test size shown in the table. Do not adjust sample to the exact value.
3.2. **Test Procedure**

Dry sample to a constant weight at a temperature not exceeding 110°C and weigh to the nearest 0.1 g.

Place sample in a container and add sufficient water to cover it.

Agitate the contents of the container vigorously to separate all particles finer than the 50 mm sieve, from the coarse particles. Break clay lumps with the fingers.

Bring all fine material into suspension and pour the wash water over the 50 mm sieve to remove suspended clay and silt.

Repeat washing until the wash water is clear.

Return material retained on the 50 mm sieve to the washed sample.

Dry washed sample to constant weight at temperature not exceeding 110°C.

Nest the sieves with the finest sieve above the bottom pan and the coarsest sieve at the top.

Place the dried sample on the top sieve, put sieves in mechanical sieve shaker, and shake for 5 minutes.

Weigh material in the pan below the 50 mm and record as the weight passing this sieve. Add the material resting on the 50 mm sieve to the material on the balance pan and record the total as the weight passing next larger sieve. Repeat this procedure until all the material from each larger sieve has been weighed.
4. RESULTS AND CALCULATIONS

4.1. Collection of Results

Record test data directly on form MR 84-71 which is arranged for detailed calculations.

4.2. Calculations

Calculate the sieve analysis as shown in the following example:

<table>
<thead>
<tr>
<th>Sieve</th>
<th>Weight (g)</th>
<th>Passing (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50.00 mm</td>
<td>950+50 = 1000 g</td>
<td>100%</td>
</tr>
<tr>
<td>18.00 mm</td>
<td>800+50 = 850 g</td>
<td>85%</td>
</tr>
<tr>
<td>5.00 mm</td>
<td>550+50 = 600 g</td>
<td>60%</td>
</tr>
<tr>
<td>2.00 mm</td>
<td>350+50 = 400 g</td>
<td>40%</td>
</tr>
<tr>
<td>900 µm</td>
<td>200+50 = 250 g</td>
<td>25%</td>
</tr>
<tr>
<td>250 µm</td>
<td>150+50 = 200 g</td>
<td>20%</td>
</tr>
<tr>
<td>71 µm</td>
<td>50+50 = 100 g</td>
<td>10%</td>
</tr>
<tr>
<td>50 µm</td>
<td>5+50 = 55 g</td>
<td>5.5%</td>
</tr>
</tbody>
</table>

4.3. Reporting Results

Report the percent passing each sieve on form MR 84-71.
APPROVAL SHEET

New __ Revision _X_ Date of Previous Document 85-04-01
Effective Date: ___-___

Description of Revision (Reason for Revision):
Format of test procedure updated.

Review/Implementation Process:
Reviewed by the Materials Section of the Technical Standards and Policies Branch.

Other Manuals/Policies Affected:
Nil

Follow Up/Training Required:
Nil

Comments/Concerns/Implications (Budget/Environment/Stakeholders):

Prepared and Recommended by  D. MacLeod _______________ 94-01-10
Materials Standards Engineer ____________________________ Date

Approval Recommended by  R.A. Widerg ________________ ___-___
Senior Materials Engineer ____________________________ Date

Approval Recommended by A.R. Gerbrandt ________________ ___-___
Dir., Technical Standards & Policies Br. ____________________________ Date

Approved by  D.G. Metz ________________ 94-01-10
Assistant Deputy Minister, Infrastructure ____________________________ Date

Electronic File Updated ___-___
Update Mailed ___-___