

**MECHANICAL ANALYSIS  
OF  
EXTRACTED AGGREGATE  
AASHTO T 30**

**APPARATUS**

- Balance, sufficient capacity for sample, readable to 0.1 g or better, in accordance with AASHTO M 231
- Nest of Sieves
  - No. 10 or No. 16 upper sieve
  - No. 200 lower sieve
- Oven maintained at  $230 \pm 9^{\circ}\text{F}$
- Electric or gas hot plate
- Mechanical shaker
- Wetting agent
- Containers and utensils
- Mechanical washing apparatus (optional), if used, provides results that are consistent with those obtained by use of manual operations

**PROCEDURE -- IGNITION OVEN SAMPLES**

- Sample consists of all aggregate after ignition oven test (This is the original dry sample weight)
- Wash water poured over basket assembly and through proper nest of two sieves
- If sample is removed from the basket assembly and placed in a container, the sample is weighed and the sample weight is required to be within 0.1% of the weight of aggregate after ignition. Sample is then covered with water.
- Sufficient amount of wetting agent added to assure thorough separation of material finer than No. 200 sieve from coarser particles
- Suds created by the wetting agent did not overflow the sieves causing loss of material
- Washing continued until wash water is clear
- Washed material coarser than No. 200 sieve and the material in the basket assembly or container dried to constant weight (Note 1) at  $230 \pm 9^{\circ}\text{F}$  or by hot plate
- Sample weighed to nearest 0.1 percent (This is the total washed dry weight)
- Sample sieved for ten minutes
- Aggregate on each sieve weighed to 0.1% of total original dry sample weight
- Weight of aggregate on each sieve not greater than weight indicated in Table 1

Note 1 -- Constant weight is defined as the weight at which drying at the required drying temperature for 15 minutes does not alter the weight by more than 0.1 percent

- [ ] The difference between the total washed dry weight and the sum of all the fractional weights retained (including the material in the pan) is equal to or less than 0.2 percent

$$\frac{\text{Total Washed Dry Weight} - \text{Summation of Weights Measured}}{\text{Total Washed Dry Weight}} \times 100 \leq 0.2 \%$$

- [ ] Percent passing each sieve is calculated to nearest 0.1% based on original dry sample weight

**PROCEDURE -- EXTRACTION SAMPLES**

- [ ] Sample consists of all aggregate after extraction test (this is the original dry sample weight)
- [ ] Sample weighed
- [ ] Sample sieved for 10 minutes
- [ ] Aggregate on each sieve weighed
- [ ] Weight of aggregate on each sieve not greater than weight indicated in Table 1
- [ ] The difference between the original dry weight and the sum of all the fractional weights retained (including the material in the pan) is equal to or less than 0.2 percent

$$\frac{\text{Original Dry Weight} - \text{Summation of Weights Measured}}{\text{Original Dry Weight}} \times 100 \leq 0.2 \%$$

- [ ] Percent passing each sieve is calculated to nearest 0.1% based on original dry sample weight

NA - Not Applicable  
 X - Requires Corrective Action  
 √ - Satisfactory

\_\_\_\_\_  
 Acceptance Technician

\_\_\_\_\_  
 INDOT

\_\_\_\_\_  
 Date

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

<b>TABLE 1</b>				
<b>APPROXIMATED SIEVE OVERLOAD</b>				
<b>SCREEN SIZE</b>	<b>STANDARD 15 in. x 23 in.</b>	<b>STANDARD 14 in. x 14 in.</b>	<b>12 in. DIAMETER</b>	<b>8 in. DIAMETER</b>
3 in.	40.5 kg	23.0 kg	12.6 kg	-----
2 in.	27.0 kg	15.3 kg	8.4 kg	3.6 kg
1-1/2 in.	20.2 kg	11.5 kg	6.3 kg	2.7 kg
1 in.	13.5 kg	7.7 kg	4.2 kg	1.8 kg
3/4 in.	10.2 kg	5.8 kg	3.2 kg	1.4 kg
1/2 in.	6.7 kg	3.8 kg	2.1 kg	890 g
3/8 in.	5.1 kg	2.9 kg	1.6 kg	670 g
No. 4	2.6 kg	1.5 kg	800 g	330 g
8 in. diameter sieves, No. 8 to No. 200 shall not exceed 200g / sieve				
12 in. diameter sieves, No. 8 to No. 200 shall not exceed 469g / sieve				