

**SIEVE ANALYSIS
OF
FINE AND COARSE AGGREGATE
AASHTO T 27**

APPARATUS

- Balance, sufficient capacity for sample, readable to 0.1 g or better, in accordance with AASHTO M 231
- Sieves
- Mechanical Sieve Shaker (optional)
- Oven maintained at $230 \pm 9^{\circ}\text{F}$
- Electric hot plate or gas stove

PROCEDURE

- Weight of sample is as follows. (samples larger than capacity of balance may be divided into suitable increments, tested, and the results combined)

| Aggregate | Minimum Weight, g | Maximum Weight, g |
|----------------------------|-------------------|-------------------|
| Fine Aggregates | 300 | --- |
| Coarse Aggregates * | | |
| No. 2 | 11300 | --- |
| No.5 | 6000 | 8000 |
| No.8 | 6000 | 8000 |
| No. 9 | 4000 | 6000 |
| No. 11 | 2000 | --- |
| No. 12 | 1000 | --- |
| No. 43 | 6000 | 8000 |
| No. 53 | 6000 | 8000 |
| No. 73 | 6000 | 8000 |
| No. 91 | 6000 | 8000 |
| Structural Backfill | | |
| No. 30 | 300 | --- |
| No. 4 | 300 | --- |
| 1/2 in. | 4000 | 6000 |
| 1 in. | 4000 | 6000 |
| 1 1/2 in. | 4000 | 6000 |
| 2 in. | 4000 | 6000 |
| B Borrow | 4000 | 6000 |

* Coarse aggregates other than sizes listed shall have a minimum weight in accordance with the Certified Aggregate Producer Quality Control Plan

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- [] Sample dried to constant weight (Note 1) at 230 ± 9°F in oven or by hot plate
- [] Weight of sample determined to nearest 0.1% of the total original dry sample weight

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

- [] Sample sieved for the time determined in accordance with ITM 906
Minimum times are as follows:

| Aggregate | Sieving Time, min. |
|---|--------------------|
| Fine Aggregates | 15 |
| Coarse Aggregate size No. 9 or larger | 5 |
| Coarse Aggregate smaller than size No. 9 | 10 |
| Structure Backfill sizes No. 30 and No. 4 | 15 |
| Structure Backfill sizes 1/2 in., 1 in., 1 1/2 in., and 2 in. | 5 |

- [] If hand sieving, particles not forced to pass through opening
- [] 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
- [] The difference between the original dry weight and the sum of all the fractional weights retained (including the material in the pan) and the weight of material removed by decantation, if applicable, is equal to or less than 0.3 percent

$$\frac{\text{Original Dry Weight} - \text{Summation of Weights Measured}}{\text{Original Dry Weight}} \times 100 \leq 0.3\%$$

- [] 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: _____

| TABLE 1 | | | | |
|---|---------------------------------|---------------------------------|------------------------|-----------------------|
| APPROXIMATED SIEVE OVERLOAD | | | | |
| Screen Size | Standard 15 in. x 23 in. | Standard 14 in. x 14 in. | 12 in. Diameter | 8 in. Diameter |
| 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 | | | | |