

## California Bearing Ratio (CBR)

The California Bearing Ratio (CBR) test is a measure of resistance of a material to penetration of standard plunger under controlled density and moisture conditions.

**When completing the CBR test for granular materials, the following procedure shall be followed:**

- For materials without oversize, the material shall be prepared as per ASTM D698 (Method C with no gradation modification) and ASTM D1883;
- When oversize was present above the 19mm sieve size, the material shall be replaced by an equal mass of weight with material that passes the 19mm sieve and retained on 4.75mm. Use similar proportions from all the sieves as per the sieve analysis;
- The number of layers shall remain at 3 with a standard blow count of 56 using a standard hammer;
- 100 and 98% SPMDD shall be achieved for materials without and with oversize, respectively, by following the maximum dry density at optimum water content curve as provided by the proctor; and,
- A shorter immersion period (24 hr) is permissible for virgin aggregates that take up moisture readily if tests show that the shorter period will not affect the results. Some labs noticed using the 24-hour procedure came up with inconsistent comparative results.

