

Immersion Bulk Volume



The technique for measuring the total volume of a sample is based on Archimedes' principle, in which the sample is immersed in a mercury bath, and the weight increase is observed in the bath. The bulk volume is calculated from the increase in weight divided by the mercury's density at the bath temperature. The sample should not touch the container in which it is submerged and must be only a few millimeters below the surface and therefore not enter the porous space. Mercury is used because it does not wet the sample therefore does not enter the pore space.

Other less toxic liquids may be used in the bathroom, for example brine, refined oil or toluene. In this case, the sample should be completely saturated with the liquid before immersion. In an alternative method, the saturated sample is weighed in air and then once again immersed. The bulk volume is then the difference in weight divided by the density of the liquid used.

The IBV has micrometric displacement gauges, temperature sensor mercury and high precision analytical balance. Manufactured in Stainless Steel and aluminum, with a gas extraction cabin. With high accuracy instruments, the basic equipment includes software of calculation and report.



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