The determination of the volumetric water content $w$ of test mixtures requires the precedent determination of the residual gravimetric moisture of the solid material before the test by drying the material for 24h at 105°C and weighting it before and after. The resulting mass difference $\Delta m$ in relation to the initial solid mass is the gravimetric residual water content $w_R$. The necessary masses of solids $m_S$ and water $m_f$ for a given total Volume $V$ and with the wished volumetric water content $w$ of the mixtures are then determined according to

$$m_S = \frac{w}{1-w_R} \rho_S V$$ and

$$m_f = w \rho_f V - w_R m_S,$$

with $\rho_f$ and $\rho_S$ being the densities of water and solids.