



Read my latest article in
Géotechnique



Please Note:

The full published version of this research paper is available to download free of charge through the Gold Open Access model from the journal website using the following link:

<https://doi.org/10.1680/jgeot.17.R.039>

O'Kelly, B. C. *et al.* *Géotechnique* [<https://doi.org/10.1680/jgeot.17.R.039>]

Abstract:

This paper reviews the percussion-cup liquid limit, thread-rolling plastic limit (PL) and various fall-cone and other approaches employed for consistency limit determinations on fine-grained soil, highlighting their use and misuse for soil classification purposes and in existing correlations. As the PL does not correspond to a unique value of remoulded undrained shear strength, there is no scientific reason why PL measurements obtained using the thread-rolling and shear-strength-based fall-cone or extrusion methods should coincide. Various correlations are established relating liquid limit values deduced using the percussion-cup and fall-cone approaches. The significance of differences in the strain-rate dependency on the mobilised fall-cone shear strength is reviewed. The paper concludes with recommendations on the standardisation of international codes and the wider use of the fall-cone approach for soft to medium-stiff clays in establishing the strength variability with changing water content and further index parameters.