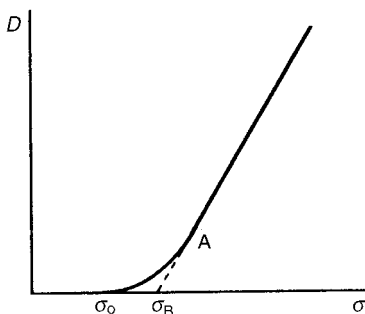


Bingham flow

Many colloidal dispersions show Bingham flow which is characterized by a σ - D diagram as shown. At rates of shear greater than that at point A, the following relation applies:

$$\sigma - \sigma_B = \eta_{\Delta} D$$

where σ_B (or τ_B) is called the Bingham *yield stress*, η_{Δ} is the *differential viscosity*, D is the *shear rate*, and σ is the average of three normal stress components if the deformation is purely dilatational.



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