

## Rheological Evaluation of Various Indigenous Gums

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**Abstract :** In the present investigation, rheology of the three different natural gums has been evaluated experimentally using MCR 102 rheometer. Various samples based on the variation of the concentration of the solid gum powder have been prepared. Their non-Newtonian behavior has been observed by the consistency plots and viscosity variation plots with respect to different solid concentration. The viscosity-shear rate curves of gums are similar and the behavior is shear thinning. Gums are showing pseudoplastic behavior. The value of  $k$  and  $n$  are calculated by using various models. Results show that the Herschel-Bulkley rheological model is reliable to describe the relationship of shear stress as a function of shear rate.  $R^2$  values are also calculated to support the choice of gum selection.

**Keywords :** bentonite, Indian gum, non-Newtonian model, rheology

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