

Poiseuille flow of a thixo-elastic fluid: analytical and semi-analytical solutions

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Highlights:

- Three analytical solutions and a general semi-analytical solution are presented for the pipe flow of a thixo-elastic fluid.
- The effect of relevant parameters on the pipe flow of a MDTM thixoeelastic fluid is comprehensively studied.
- The maximum elastic strain that a thixoeelastic fluid can tolerate affects the variation of volumetric flow rate with thixotropic time constants.
- The occurrence of shear banded flows was confirmed for the considered thixoeelastic fluid.

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