

178d Experimental and CFD Study of Mixing Quality of the Maxblend Impeller

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The hydrodynamic characteristics of the Maxblend impeller have been investigated in the case of viscous fluids. Both laboratory experiments and 3D finite element based CFD simulations have been tackled for Newtonian (corn syrup) and non-Newtonian shear-thinning (aqueous solutions of CMC) fluids. In the experimental study, the power consumption, the mixing time (color and decolorization method) and the effect of baffles in the laminar and transition flow regimes have been measured in the case of partially and completely filled tanks. The numerical simulations have dealt with the predictions of the three dimensional flow patterns and the mixing performance. In the presentation, both the CFD and experimental results will be analyzed showing the potential of this impeller.