The Tommy Atkins mango variety has typical use as whole fruit, because its excellent appearance, thin peel and vivid color, and for presenting little amount of fibers. As whole fruit, variations in the pattern of samples result in reduction of commercial value and discard of fruits in perfect state for consumption. It is possible to eliminate that type of losses for extraction and processing of the pulp, still, with aggregation of value. After extraction in industrial processing, the fluid pulp is pumped, pasteurized, mixed, operations that involve the rheological behavior. This work was accomplished with aim of studying the rheological behavior of Tommy Atkins mango pulp with soluble solids content of 19 and 21° Brix at 10, 20, 30, 40, 50 and 60°C. The rheometric data were obtained in a Brookfield viscometer, RVT model, in rotation speeds from 0.5 to 100 rpm. They were obtained viscosity data, shear rate and of shear stress. The rheometric data were fitted with the Power Law, Herschel-Bulkley and Mizrahi-Berk models. All the fittings resulted in determination coefficients larger than 0.95 and mean relative percentage deviation modulus(E) smaller than 10%. The Mizrahi-Berk model presented the best results, with R² larger than 0.97 and P smaller than 5%. The pulps presented pseudoplastic behavior and this behavior was not affected by the temperature.