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Título	The influence of the nanoparticles concentration on the rheological behavior of mineral oil-based SiO2 nanofluids
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The term “nanofluids” refers to a two-phase mixture, containing a liquid phase and nanoparticles dispersed in suspension. Due to characteristics such as high colloidal stability, small particle size and interesting properties, nanofluids (NFs) can act in different areas of science and technology. In high-voltage engineering, nanofluids are utilized to optimize both electrical and thermal properties. Recently, different studies have investigated how fluids can improve high-voltage engineering. However, most of these have focused only on the heat transfer of nanofluids or thermophysical properties, leaving out an important part that is rheological behavior. The purpose of the present study is to analyze the rheological properties of mineral oil-based SiO2 nanofluids. The tests were carried out with mineral oil and nano-silica, both from Sigma-Aldrich, at a temperature of 25 ºC with peltier control in an Anton Paar MCR92 rheometer with parallel plate geometry with a 25 mm diameter. The samples were formulated with volumetric concentrations from 0.10 up to 0.20% of nano-silica in mineral oil. The objective is to investigate at what concentration the material ceases to behave like a Newtonian fluid and determine the influence of nanoparticle concentration on the nanofluid flow curve. Interesting results were obtained, and it can be anticipated that from 0.20% onwards, mineral oil in the presence of nano-silica no longer behaves like a Newtonian fluid, but rather like a non-Newtonian viscoplastic fluid.