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## Effect of soya been oil and palm oil oxidation stability on the variation of heat treatment coefficients and residual stresses

Diego and Kamesh

### Abstract

The authors conducted experiments to study the effect of soya been oil and palm oil oxidation stability on the variation of heat treatment coefficients and residual stresses. The vegetable oils derived from industrial oils are relatively non-toxic, biodegradable. In their work the authors have considered to vegetable oils and evaluated them by comparing the quenching performance with respect to heat transfer and residual stresses. The two oils selected by them were soyabean oil and palm oil. The specimens were 12.5mm in diameter and 60mm long. They have performed a thermo mechanical analysis to compare the residual stresses produced by both the Quenchants. They reported that the compressive hoop residual stresses at the surface were between 172 to 192 MPa and residual stresses were between 33 and 78 MPa. They have developed mathematical equations for estimation of coefficients. They discussed the fluid composition and viscosity, oxidative stability, heat transfer coefficient characterization and thermal stress characterization.