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# Effet du traitement Thermique (Trempe libre) sur les propriétés thermiques et thermo-dynamique du polypropylène (PP)

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**Abstract :** This work deals on the study of the thermal properties of polypropylene (PP) in the presence of residual stress (CR). At laboratory scale, two valid methods for introducing residual stresses in the polymer, which are non-uniform cooling (thermal quenching), and the non-uniform plastic deformation (cold rolling) is known. The results obtained by the DMA analysis result in the presentation of two relaxations, for all the samples studied. DSC results show a decrease in the crystallinity of the polymer at free quenching temperature of 20°C.

**Keywords :** Polypropylene, Quenching, Thermal history.