Quasisteady thermoelastic problems with nonconvex potentials

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We give a global existence theorem of weak solution governing the slow evolution of bounded thermoelastic body. It is supposed that the energy density is a smooth functions of the deformation gradient ∇u and the temperature θ so that it is quasiconvex in ∇u and concave in θ. We prove that the corresponding initial-boundary value problem has at least one generalised solution satisfying both the maximum entropy principle and minimum entropy production principle.