

Fin Efficiency of Helical Fin with Fixed Fin Tip Temperature Boundary Condition

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Abstract : The fin efficiency for a helical fin with a fixed fin tip (or arbitrary) temperature boundary condition is presented. Firstly, the temperature profile throughout the fin is determined via an energy balance around the fin itself. Secondly, the fin efficiency is formulated by integrating across the entire surface of the helical fin. An analytical expression for the fin efficiency is presented and compared with the literature for accuracy.

Keywords : efficiency, fin, heat, helical, transfer

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