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Conjugate Heat Transfer analysis is performed on a split phase induction motor with internal fan-driven air-cooled topology by using the electromagnetic losses computed in SPEED and mapping them onto the real-world 3-D geometry in STAR-CCM+. Temperature dependent copper losses (I^2R) are modeled in both the stator winding and the aluminium rotor squirrel cage. Simulation and measured temperatures are compared to show accuracy of this process. An improved, "vented" stator geometry is swapped into the STAR-CCM+ simulation to determine the potential impact of this design change upon the machine's thermal performance.

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