

ME 414 Thermal-Fluid Systems Design

Project Presentations

Monday, December 15, 2003

9:00 – 11:00 am; SL 165



INJECTION MOLDING MACHINE COOLING SYSTEM DESIGN

Cooling System Design: Four injection molding machines of an automotive manufacturing plant is cooled with treated water. Plant cooling system is designed where pipe sizes, fitting types and a matching pump were selected. Design objectives include an equal flow distribution between injection molding machines with minimum piping material cost, least system pressure drop and highest pump efficiency.

Heat Exchanger Design: A water-to-oil shell-and-tube heat exchanger is designed to maintain the injection molding tool desired process temperature. Heat exchanger degradation due to fouling, variation in design parameters due to manufacturing tolerances are taken into consideration while designing the heat exchanger.