

HEAT TRANSFER IN AUTOMOBILE RADIATORS OF THE TUBULAR TYPE

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INTRODUCTION

Heat to be dissipated from water-cooled internal combustion engines is usually transferred to the atmosphere by means of devices commonly called radiators. The medium conveying heat to the radiator is generally water, the medium conveying heat away is air.

In this article it is intended to discuss the fundamentals involved in the transfer of heat from water to the atmosphere in the simplest type of tubular radiator. No attempt will be made to discuss the effect of the rate of heat transfer when using fins, honeycomb section, or any type other than the plain tube.

The unit of measure of heat transfer in heat exchange equipment is the "Overall Transfer Factor," which is the heat transferred per unit area of heat transmitting surface per unit time per unit of temperature difference between the hot and cold fluids.