

Boiling Heat Transfer of Low GWP Refrigerants: A Review

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Abstract - The boiling heat transfer of low GWP (global warming potential) refrigerants, which are more environmentally benign, is studied in this work. Low GWP applications allow for greater freedom in the choice of suitable working fluids based on application and necessity. Human comfort demands increase as a result of the rapid pace of climate change in order to adapt to its negative effects. HVAC&R (Heating, Ventilation, Air Conditioning, and Refrigeration) is crucial for preserving the level of climate comfort in a closed space and its surrounds by using eco-friendly refrigerants. The purpose of this review is to provide a summary of significant studies on the application of low GWP refrigerants in boiling heat transfer, as well as a background on refrigerants and their many subtypes. Along with explaining the impacts of vapour quality, heat flux, and mass flux on pressure drop, this also discusses the implications of heat flux, mass flow, saturation temperature, and the heat transfer mechanism on the heat transfer coefficient.