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ABSTRACT

This project report offers a comprehensive analysis of vapor compression systems' performance using various green refrigerants, addressing the imperative need for environmentally sustainable refrigeration solutions. Beginning with a historical overview of ozone-depleting refrigerants and global initiatives for their phase-out, the report underscores the importance of transitioning to green refrigerants, characterized by low global warming potential (GWP) and ozone depletion potential (ODP). The objectives of the study encompass evaluating performance metrics such as coefficient of performance (COP) of Tetrafluoroethane (R134a), Isobutane (R600a), Propane (R290), and, alongside practical considerations like compatibility and cost-effectiveness. The findings highlight the efficiency of green refrigerants in achieving environmental sustainability goals while maintaining or enhancing system performance, offering valuable insights to guide stakeholders in their pursuit of eco-friendly refrigeration solutions.

1.3.2. Natural Refrigeration

1.3.3. Art of Ice Making by Nocturnal Cooling

1.3.4. Evaporative Cooling

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