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Exergy and Energy Analysis of Pre-Heating Unit of Fluid Catalytic Cracking Unit in Kaduna Refining and Petrochemical Company

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Abstract : Exergy and energy analysis of preheating unit of FCCU of KRPC has been calculated and presented in this study. From the design, the efficiency of each heat exchanger was 86%. However, on completion of this work the efficiencies was calculated to be 39.90%, 55.66%, 56.22%, and 57.14% for 16E02, 16E03, 16E04, and 16E05 respectively. 16E04 has the minimum energy loss of 0.86%. The calculated second law and exergy efficiencies of the system were 43.01 and 56.99% respectively.

Keywords : exergy analysis, ideal work, efficiency, exergy destruction, temperature
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