

**PROPANE – N-BUTANE MIXTURE CONDENSATION PROCESS ON HEAT EXCHANGER INTERNAL SURFACE OF HOUSEHOLD REFRIGERATOR**

**Stefan RESZEWSKI**

Institute Of Heat Engineering And Fluid Mechanics  
Wrocław University Of Technology, Wybrzeże Wyspiańskiego 27, 50 – 370 Wrocław

In this paper was taken a test to create base to computation and design condensers for a domestic refrigerators working with hydrocarbon mixtures as refrigerant. Thesis' subject was forced more and more amount of domestic refrigerators working with hydrocarbon mixtures as refrigerant and no correlations for heat transfer coefficient for condensing hydrocarbon mixtures. In theoretical part mathematical model of condensation process of binary hydrocarbon mixtures inside tube in vertical condenser was created and was calculated. With the purpose of calculate heat transfer coefficient, correlations for CFC and HCFC mixtures were taken. Also in this paper some empirical equations of state to calculate thermodynamic properties of pure hydrocarbon and their mixtures and graphic and analytical presentation of results were presented and compared with literature. In case of condensation modeling results were compared with results of experiments by using thermograph method. Base to this analyze some of empirical correlations were proposed to calculate heat transfer coefficient for condensing hydrocarbon mixtures.