عنوان مقاله:

Heat Transfer in Porous Media; User Friendly Computer simulator

محل انتشار:

دهمین کنگره ملی مهندسی شیمی ایران (سال: 1384)

تعداد صفحات اصل مقاله: 17

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خلاصه مقاله:

The prominent role of effective thermal conductivity, keff , in thermal design related to the heat transfer in porous media can not be undermined. Many parameters are involved in the calculation of this property, using analytical models as well as empirical correlations. Visual Basic computer programming is employed to use the basic idea of unit cell model for the prediction of effective thermal conductivity, keff in a porous media. This tool could easily be used to incorporate the deficiencies in a non uniform porous material such as vugs and fractures. The results are useful mostly for all the heat transfer based designs for porous media such as drying, food industries as well as thermal enhanced oil recovery. It is important to note that the pore saturated fluids, the distribution of the empty pores as well as the orientation of the fractures affect the calculated effective thermal conductivity. Finally, in order to prove .the validity of the proposed model, simulation results were compared with those from well- known correlations

کلمات کلیدی:

Transport in Porous Media, Heat Transfer, Thermal Conductivity, Thermal Enhanced Oil Recovery