



International Journal on Recent Researches In Science, Engineering & Technology

A Journal Established in early 2000 as National journal and upgraded to International journal in 2013 and is in existence for the last 10 years. It is run by Retired Professors from NIT, Trichy.

It is an absolutely free (No processing charges, No publishing charges etc) Journal Indexed in DIIF and SJIF.

Research Paper

Available online at: www.jrrset.com

Chief Editors 1 : Dr. M.Narayana Rao, Ph.D., Rtd. Professor, NIT, Trichy.

(Engg.&Technology division)

2 : Dr. N.Sandyarani, Ph.D., Professor,

Chennai based Engg.College, (Science division)

ISSN (Print) : 2347-6729

ISSN (Online) : 2348-3105

Volume 2, Issue 10,

October 2014

DIIF IF :1.46

SJIF IF: 1.329

Experimental Study Of Wall-To-Bed Heat Transfer In A Fluidized Bed Reactor

MAMDOH AL- BUSOUL

Abstract - The research will present the experimental investigation of wall to bed heat transfer in fluidized bed reactor. To meet the objective of the research, an empirical equation will be established to predict the heat transfer coefficient in fluidized bed. To establish the equation, a series of experiments will be conducted in a square cross-section reactor which is made of acrylic plastic; to allow visual observation of the flow with a side length of 10 cm and a height of 1 m, using three different lengths of copper plate heater (4cm, 8cm, 15cm), which will have a fixed width (2.5 cm). Experiments will be performed at a gas velocity in the range of (0.05-1.8 m/sec) for four different solid particles (zeolite, sand, silica, fildspare). The established empirical equation will be compared with the data of the performed experiment, as well as with equations and experimental data of other investigators.