Packed Fluidization Process to Enhance of rate of heat transfer in Pebble Bed

Packed Fluidization process has been developed to enhance the rate of heat transfer in pebble bed. viz. Li₂TiO₃. Heat transfer in packed fluidized bed in which small particles are fluidized in the voids of stationary packing is characterized by estimating effective thermal conductivity of the bed as a function of size of small particles, fraction of the volume of voids filled by the small particles, bed wall temperature and air velocity.

From experiment studies it was found that the parameters enhanced the effective thermal conductivity of the binary packed fluidized bed are low particle to packing size ratio, operating gas velocity to the minimum fluidization velocity ration at 3 and volume percentage of small particles in the interstitial void volume of packing is 60%.



Fig. 1 Packed fluidized bed