

Effect of Inclination Angle and Size of Heated Surface on Pool Boiling CHF

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ABSTRACT

Pool boiling critical heat flux (CHF) have been investigated using plate type test sections with different widths (3 cm & 4 cm) and lengths (10 cm, 15 cm & 20 cm) under various inclination angles. As the inclination angle increases from 0° (horizontally facing downward plate) to 30°, CHF sharply increases. After that angle, CHF gradually increases with the increase of the inclination angle. There must be a transition angle between 0° and 30°, at which the CHF increase rate remarkably changes. According to the comparison of present and previous experiments, the transition angle may be affected by heater size and increase with the increase of heater size. The size effect of heated surface on CHF is noticeable in the L15 & L20 series and W4 series; however, it seems to be difficult to find the size effect in L10 series and W3 series.