Polymer concretes (PC) finds many application fields in civil engineering, especially the requirements on chemical resistance and high mechanical strength, repairing-retrofitting and precast industry. The thermal conductivity $\lambda$ properties of PC were investigated according to different mix components of PC and different plate temperatures of thermal conductivity apparatus, in this study. PC was produced with two different types of resins (polyester and vinylester) as binder (matrix) and two different types of phase materials (mineral “sand” and polypropylene fibers) as fillers. The thermal conductivity properties of PC were determined by varying the level of phase materials (three rates for each phase material) and by varying the plate temperatures of apparatus (average temperatures of hot and cold plate for heat flow are -10, 10, 20, 30, 50 °C).

It was observed that the thermal conductivity properties of traditional concrete were approximately five to six times higher than that of the PC. It has been shown that polymer concrete is an appropriate material with respect to heat isolation. It was concluded that thermal conductivity coefficients are increases when the ratios of phase material and/or plate temperatures are increases. It was concluded that the thermal conductivity coefficients are changes depend on ambient temperature conditions along with types and mix ratios of PC component.