**ABSTRACT**

Crank shaft are one of the major components in refrigerator compressor. It converts the reciprocating motion of the piston in to the rotational motion. It enables the piston to move top dead center to bottom dead centre when it complete one revolution. The compressor compresses the refrigerator to very pressure.

 The main objective of this project to model a refrigerator crank shaft and carried out the static structural analysis is to determine critical stresses and deformation and further analysis is carried out on different materials to find most preferable. The cad model is designed in solid works and simulation is carried out in solid works simulation.