In this study, with 15 kW induction motor is to be designed using the same stator structure and the new synchronous reluctance motor (synrm) were compared. SynRM are known as cold rotor motors. As with copper rotor induction motor (aluminum) rotor copper losses are minimized since no rods reduced to zero and the rotor losses. In this way it is achieved improvements in motor efficiency by reducing losses. Design of the rotor geometry SynRM rotor induction motor stator were performed using the same geometry. Design performing Ld / Lq rate design is made taking into consideration current barriers. The rotor lamination sheet on the air / iron ratio of parametric analysis on the lamination steel designed to be important for motor performance has been realized. This parametric analysis of lamination steel as a result it was decided to have 4 barrier. Asynchronous motors and SynRM analysis were compared. SynRM'n efficiency value according to the received value has occurred to a rise of 3%. Thus efficiency by changing the motor rotor induction class, which was raised to the IE1 IE3 class. The torque ripple is provided an improvement of approximately 8%.