**ABSTRACT**

The true centrifugal die casting process was observed at Vijayawada alloy casting private limited, at Vijayawada in India. In the present observation, for the production of cylinder liners, resin sand was used at the front door of the horizontal centrifugal die casting machine and also resin sand was coated or lined at inner surface of the die or mould. However, no resin sand is used at the back door, which results in direct molten metal to metal contact at the back door and which increases the hardness of the cylinder casting (i.e., forms excess than required) due to rapid cooling rate at rear end side of the casting machine, is called chilling, its form at a particular casting zone at back door side range from 6 to 13 mm, which is undesirable. Due to this hot spot defect appear on the back door and it decreases the back door life (i.e., its average life maximum 3 to 4 days). The chilling length is removed by the parting operation, which increases the cost of production. In this research work, to eliminating that hot spot defect, the die back door is design and fabricated to introduce resin sand and also the temperature distribution of the die back door was simulated by using ANSYS 18 software and also carried out FE-SEM, EDX microanalysis for microstructure (i.e., old and new castings) and presence of variation in chilled casting zone. Result in, no direct metal to metal contact, increasing the life of back door and the hardness of the cylinder casting is limited to as per requirement, parting operation and hot spot defects are eliminated. Instead of parting operation, facing operation is adopted. The time required for facing operation is 1/6th of the parting operation.