AKGEC-SIEMENS
Advance Manufacturing Centre

# Friction Stir Processing

With the advancement in technology and limited energy resources, now manufacturing Industries are focusing more towards the material having better strength as compared to its weight and to reduce the material wastage industries are now demanding those processes which are highly efficient and can be easily performed. Friction stir processing have started a revolution in the field of material property modification. In friction stir processing a rotating tool which is cylindrical in shape having pin at its one end plunges into the work piece generating friction between the two surfaces. This frictional heat softens the work piece material and remixing of grains and modification in grain size starts in the stir zone thereby altering its properties.

The present work aims to study the modification in mechanical properties of Aluminum alloy 6063 T6 by the application of Friction stir processing. The effect of parameters like RPM, feed, and no. of passes has been investigated on the basis of micro hardness value obtained at different combination of parameters. The combination of parameters are selected on the basis of orthogonal array design and analysis for optimum parameter selection is done on the basis of Taguchi's method of design of experiment.