

**TO WHOMSOEVER IT MAY CONCERN**

We engaged M/S ProSIM, Bangalore for simulation of tube rolling process and prediction of the defects that were coming in the operations. ProSIM team undertook a detailed study of three roll mandrel mill. Required tube rolling process parameters were used in their simulation model and developed a thermal-mechanical-deformation model. With finite element analysis based simulation model, studies were conducted to understand the effect of various process parameters, input material variations, and manufacturing tolerances of various components of mill/systems.

Results from such simulations helped us to understand the causes of ID defects in the tubes.

Studies were also conducted to quantify the effect of non-uniform roll pressure on the mandrel to improve mandrel life.

For ISMT LIMITED

  
O.P. KAKKAR  
Director

Pune  
3<sup>rd</sup> August, 2015



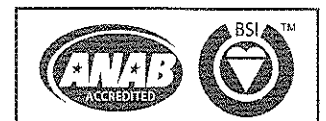
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