

Second Laureate Research & Development



- ◆ **Project title:** Steel Making Technology of Gas Turbine Parts (Turbine Type V94.2)
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Abstract:

Gas power plants are one of the main sources of supplying electricity in Iran. Gas turbine is one of the bases of these plants. There are various brands of gas turbines in Iran among which V94.2.5 is the commonest. It is designed by Siemens and is currently assembled and installed in the country's power plants by Tuga which is a subsidiary of Mapna. They annually fabricate at least 25 sets of these turbines. These turbines are made up of both rotary and static parts out of which the rotary ones are mostly made of steel grade 3.5NiCrMoV. Due to their great sensitivity of application these steels have unique characteristics which differentiate them from regular quality steels. (Mechanical properties control within a tight range along with excellent impact energy with a completely soft fraction area, and specific control of the residual stress in these steels are from their specific characteristics.)

In the recent project in addition to academic studies on this case the outcomes of the studies were formed into industrial experiments which later led to achievement of technical know-how of the production of these parts after having done necessary tests and analyzing and investigating the results. Having done this project successfully not only did earn self-sufficiency in these pieces for the country, but also placed Iran among few countries holding the production know-how of them.

