DIPLOMA THESIS EVALUATION

First name and surname: *Krunalkumar Patel*

Topic name: **Possibilities of Using Metallic Interlayers During Diffusion Welding of Ti and AISI 316L Steel**

Supervisor: doc. Ing. Jaromír Moravec, Ph.D.

1. Diploma thesis evaluation

	Excellent	*Very good*	*Good*	*Insufficient*
Accomplishment of diploma thesis range specification	X			
Diploma thesis professional level	X			
Applicability of results and its contribution to practice		X		
Self-reliance and initiative during the thesis solution	X			
Diploma thesis graphic and content format	X			

Note: Evaluation is marked by **X** in the relevant position

2. Concrete recommendations to the diploma thesis

Student Krunalkumar Patel solved diploma thesis whose topic was set within the bilateral project between TUL and Graz Technical University. His thesis takes up on the bachelor thesis of student NOVÁK and deals with the possibility to remove joint high brittleness created during the diffusion welding of pure titanium and stainless steel AISI 316L. Together with ferrum, chromium and nickel, titanium creates hard intermetallic compounds. As a basic aim of this diploma thesis there was effort to find such procedure of diffusion welding, whereat the hard IMC would not be created and that is why there were used metallic interlayers. Due to them, high hardness and brittleness of joints should be removed and thus improve the joint utility properties.

During the elaborating theoretical and experimental part of the diploma thesis, student worked independently and was very active. Into the own work was integrated everything, which was discussed during meetings and very few corrections were needed. In the theoretical part were used all required references and detailed theoretical background of actual research in the given branch was done. Also logical processing of individual chapters and their sequence is in order.

The situation was a little bit worse during the experimental part, because manual skills are not student´s strongpoints. It was mainly evident during welding of thermocouples (TC) onto the tested samples. These TC fell off during experiment and there was needed to repeat experiments. On the other hand, processing and evaluation of measured results was all right. I have to point out here that student has ability to get deeply familiar with given problem and based upon the results is able to clearly present conclusions and recommendations.

As a whole, the thesis is on high level and features new findings about heterogeneous joints creation. Student was able to work independently, make logical conclusions and was active during the whole elaborating on this diploma thesis.

3. Diploma thesis supervisor classification

Excellent minus

In Liberec, dated 06. 06. 2018

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diploma thesis supervisor signature