

## TCM Technik: Training partner company for FH Johanneum and HTL:

For more than 10 years, TCM has been a proven partner in the training of students at FH Johanneum in the dual study program PTO (Production Technology and Organization). In each class, 2 students complete their theoretical semesters at the FH Johanneum and the practical semesters at TCM within the technical department.

For the diploma thesis at the end of the PTO study, a technical topic is assigned by TCM Technik. Based on this task, the students in the TCM tool management projects at home and abroad develop their research results which are consequently professionally documented and presented in the diploma thesis.

This demanding preparation is based on extensive research and meaningful test series with cutting tools or process optimization with the aim of increasing productivity.

Further interesting topics and approaches can be found increasingly in the area of digitalization of tool data and process chains, starting with the setting up of the tools, through to the tool supply on the machine.

For three years, TCM has been giving HTL students (specializing in mechanical engineering, mechatronics) the opportunity to carry out their diploma thesis with the support of the TCM technical department.

After a diploma thesis on minimal quantity lubrication of modern cutting tools was developed in the first degree course, the topic on the program this year was "Drilling CFRP (carbon fiber) materials".

The task for the budding HTL technicians was among others:

- Fundamentals of CFRP carbon fiber, types of CFRP, manufacture and use
- Wear problems on the tool during CFRP drilling
- Use of CVD coated drilling tools
- Use of drills with PCD diamond point
- Examination of the delamination of CFK fibers at the drilling exit
- Economic calculation of costs per drilling
- Practical trial in our in-house machining laboratory



In the course of this project work, a leading Austrian company in the field of carbon fiber processing was visited during an excursion.

The thesis presentation was received with great interest by the examination board.

A general challenge for all companies is the permanent training of qualified junior technicians. TCM is actively contributing to a solution.

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