**Problem Description**

- All Hilti fire protection products must pass internal and external fire tests.
- The furnace is heated according to the logarithmic UTC.
- A sound knowledge about the conditions inside the respective test furnace is essential. Therefore, the situation in the furnace during the test shall be simulated by CFD.

**Objectives & Tasks**

- The aim is to understand the influence of position and number of burners on velocity, temperature and pressure field in furnace. Besides, the influence of the walls – heat up in initial face and stabilization by radiation in the later phase – shall be investigated.
- The task is to work with a given CFD model for a test furnace and perform combustion computations. The results shall be compared to test data and theory with respect to the heat transfer coefficient distribution in the furnace.
- The master student should have a strong interest for CFD and willing to deal with an open source code. Knowledge of C++ / OpenFOAM is an advantage.