



PROCESS SAFETY

Key areas are the investigation of non-operational-like processes in chemical and related industries and processes in a closed environment and the identification of protection processes and devices, monitoring and control of the processes in order to protect human life, the environment and the economy.

COMPETENCIES

- Safety analysis of technologies and processes
- Selection of devices of protection against overpressure and vacuum
- Simulation and laboratory testing of safety valves
- Design of explosion protection of explosive technologies



SERVICES

- Hazard and risk analysis of technological systems
- Performing theoretical and simulation calculations related to analysis, modelling processes
- Designing overpressure protection
- Structural and operational analysis in case of fire
- Inspection of blow-off systems
- Selection of devices for protection against overpressure and vacuum
- Simulation and laboratory testing of safety valves
- Design of explosion protection of technological processes of explosive dust, gas, vapours, and hybrid mixtures
- Inspection/design of equipment for pressure during explosion, calculation of rupture surfaces, structural design of protection solutions (related competence in the DustLab - explosion characteristics testing laboratory)
- Launch explosion protection professional engineers and highly specific training in relevant areas



TOOLS

- Quantum X measuring and data collection system with sensors and transmitters
- High performance computer system for numerical simulation, simulation environments: ANSYS, SC/Tetra, Unisim Design, ChemCad, Visual Vessel Design
- Our partner is the MOL Petrochemical Safety Testing Laboratory



REFERENCES

- Zoltek Zrt. – Research of oxidation furnace malfunctions with internal fire and pressure increment, design of explosion protection with rupture panel protection
- Borsodchem Zrt. – Analysis of system safety and risk of the pressure equipment and systems of HPM, WNA2, MNB, Anilin, OSBL projects
- Dunaferri-DBK – Development of a coke-side bag dust filter with rupture panel explosion protection
- Design of explosion protection and blow-down systems of various technologies
- Functional and performance testing of safety valves