

Heat treatment and surface treatment of metals

We can help optimise the technology of heat treatment and surface treatment of ferrous and non-ferrous metals. We detect the source of heat treatment problems by complex test methods. We make proposals to solve issues and develop new heat treatment technologies through investigation of the physical metallurgical, mechanical and physical properties. We provide support to layer addition techniques.

Competencies

Detection of issues in all cases related to unwanted properties formed during production



SERVICES

- Development and optimisation of heat treatment technologies
- Development and optimisation of surface treatment technologies
- Identification of the cause of heat treatment issues
- Development of heat treatment technology for new materials
- Measurement of material properties for heat-treating planning
- Creating transformation diagrams
- Development and optimisation of layer addition technologies



TOOLS

- Programmable chamber laboratory furnaces
- Programmable shaft laboratory furnaces
- Gas nitrocarburising equipment
- Equipment for measuring mechanical properties
- Equipment for microstructure investigations
- Equipment for fine structure investigation
- PVD equipment
- GD-OES spectrometer
- Plasma cleaner equipment



REFERENCES

- Flanschtech Ltd. – Determination of the reason for soft spots in forged and heat-treated pieces
- Hanon Systems Hungary Ltd. – Discovering the cause of nitriding failure
- Advanced Forming Technology – Hungary Ltd. – Discovering of the surface failure by MIM pieces
- Modine Hungária Ltd. – Development of heat treatment technology for Inconel springs
- Advanced Forming Technology – Hungary Ltd. – Mapping the cause of hardness inhomogeneity on components made with MIM technology
- Arconic Kőfém Ltd. – Optimisation of the heat treatment of malleable aluminium alloys
- Schmelzmetall Deutschland GmbH. – Development of a wear resistant brass alloy and optimisation of its mechanical properties
- FAG Magyarország Ipari Ltd. – Determination of the cause of crack of bearing rings