



DSC

Differential Thermal Analysis

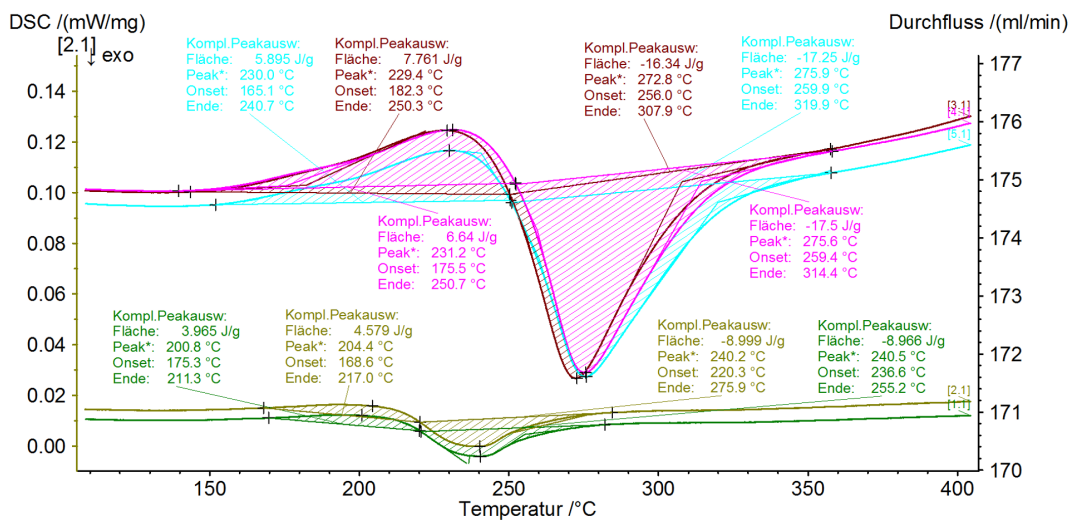
- Determination of formation and solution temperatures as well as the specific corresponding energies
- Identification of optimisation potential in the casting process and the heat treatment of alloys

TESTING METHODS

- M50-MD07-LKR

OUR SERVICES

- Test procedure according to specially developed SOP
- Determination of phase formation temperatures and enthalpies
- Detection of low-melting impurities
- Heat capacity measurements
- Heat treatment simulation with simultaneous thermal measurement
- Optimisation of thermal process parameters for the real industrial production process



TEST PROCEDURE	PERFORMANCE PARAMETERS	APPLICATION
Differential scanning calorimetry at a constant heating rate	<ul style="list-style-type: none"> • Heating rate: 0.001K/min to 200K/min • Cooling rate: up to 40K/min • Interval: -180°C to 700°C • Protective gas atmosphere 	<ul style="list-style-type: none"> • Phase detection • Determination of enthalpies of formation/solution
Heat capacity measurement	<ul style="list-style-type: none"> • Interval: -70°C to 700°C • Determination by DSC signal (calibrated) or sapphire reference method 	<ul style="list-style-type: none"> • Thermodynamic optimisation of alloys, data collection for simulation
Simulation and measurement of freely definable temperature programmes	<ul style="list-style-type: none"> • Any number and duration of heating/cooling and holding periods at variable heating/cooling rates 	<ul style="list-style-type: none"> • Simulation of heat treatments with simultaneous measurement of precipitation energies and temperatures

As a subsidiary of AIT **LKR Leichtmetallkompetenzzentrum Ranshofen GmbH** is pursuing a holistic research and development approach to lightweight construction in the vehicle sector - from new metal alloys and process technology to material-related structural design.



This makes LKR a powerful and independent partner for your development projects.

AIT AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH

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