Are your materials exposed to aggressive environments?

We analyse your specific properties by corrosion tests and extensive investigations of resistance.

We are skilled in long-standing experience in powder analysis, thermally sprayed layers and ashes.

**Keywords**
- Coating characterization
- Particle sizing
- Thermal behavior
- Aqueous and high temperature corrosion
- Extensive analysis

**Industry**
- Producer and processor of powders
- Job coater
- Plant engineering (corrosion and wear)
- Energy and recycling industry
- Waste management industry
- Automotive industry
- Chemical industry
- Aeronautics industry
Your benefit

- Quality control of powders and coating systems: information about structure, composition and homogeneity
- Corrosion tests with accompanying analysis and profound appreciation of the corrosion processes
- Clarification of failure mechanism
- Optimized selection and development of materials for layer systems dependent on application

Our service

- Modern labor equipment: SEM with EDX, XRD, simultaneous thermal analysis
- Corrosion tests under aggressive conditions (gases, salts, ashes)
- Aqueous corrosion analysis
- Analysis of phases and elements in corrosion products
- Phase analysis at high temperatures (XRD with heating chamber up to 1400 °C)
- Characterization of layers
- Analysis of thermal behavior up to 1450 °C
- Characterization of powders and particles (particle size analysis, flowability, bulk density, morphology)
- Failure analysis

Technical equipment

- Scanning Electron Microscope (SEM)
- EDX with SDD-detector XMax 50 Oxford Instruments, Software INCA (Analyzer, Point&Shoot, Mapping, Quantmap, Phase Map, Spektrum, Cameo+)
- X-Ray Diffraction Siemens D 500 and D 5000 with glazing incidence and heating chamber, Software DIFFRAC+ and Topas (quantitative and structure analysis)
- Simultaneous thermogravimetry and differential scanning calorimetry (DSC/TGA) Netzsch Luxx 409, T_{max} = 1450 °C
- Several corrosion furnaces, T_{max} = 1700 °C, or up to 1200 °C with muffle under defined aggressive atmospheres
- Mesh analysis
- Particle size analysis by laser diffraction (Sympatec)
- Measurement of hardness (Vickers)
- Determination of adhesive strength by shear test

1 Corrosion furnace with muffle and gas mixing.
2 Pitting on steel 1.4571 by biological corrosion.