

Company Profile | ZwickRoell Authorized Partner Laboratory

Gesellschaft für Werkstoffprüfung mbH (GWP)

Munich

Georg-Wimmer-Ring 25
85604 Zorneding

Saarland

Auf Nauwies 10
66806 Ensdorf



SPC Werkstofflabor GmbH (SPC)

Westhausen

In der Waage 10
73463 Westhausen

Steinheim non-destructive testing site

SPC Werkstofflabor GmbH
Daimlerstraße 10



Contact

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Certifications

Accredited compliant to DIN EN ISO/IEC 17025
TISAX certified

Service Overview / Expertise

| Industries

Automotive, mechanical and plant engineering, electrical engineering & electronics, metals industry & aluminum, raw materials industry, aerospace, defense, medical engineering, energy & environment, construction industry

| Materials & Components

Plastics, metals, composite materials

ZwickRoell GmbH & Co. KG
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Managing Directors:
Klaus Cierocki (Chairman)
Christine Dübler • Ping Bu Loke
Personally liable partner:
ZwickRoell Verwaltungsgesellschaft mbH, Ulm
Registration Office Ulm HRB 4361
VAT ID No.: DE147043343

| Test Methods

Metallographic examinations

Welded-joint assessment using transverse sections, macroscopic examinations, optical microscopy, transmitted-light microscopy on thin sections, scanning electron microscopic examinations (SEM), microstructure assessments, grain-size determinations, assessment of non-metallic inclusions, assessment of graphite formation in cast iron

Chemical and spectral analyses

Optical emission spectroscopy analysis (OES analyses), analysis of carbon, sulfur, hydrogen, oxygen, nitrogen in metals, analysis of trace elements, phase analysis using X-ray diffractometry (XRD), EDX analysis (scanning electron microscopy), chemical analysis of electrolytes and electrodes

Mechanical tests

Hardness tests, tensile tests, Charpy impact test, flexure and impact flexure tests on plastics and Dynstat specimens, rubber and elastomer testing, r- and n-value determination during tensile tests

Non-destructive testing

2D X-ray inspection: Defect analysis, 3D X-ray inspection: volume, porosity, foam structures, target-actual comparison using CT, wall-thickness analysis using CT and X-ray, analysis of cavities and pores in castings, visual testing (VT) – visual inspection of surfaces, penetrant testing (PT), magnetic particle testing (MT) – surface and near-surface defects in ferromagnetic materials, ultrasound testing (UT) – volume defects, thickness, cavities, cracks, radiographic testing (RT / CT) – volume defects, pores, welded joints, eddy current testing (ECT) – surface/near-surface defects, coating thicknesses, conductivity, tightness/leak testing

Thermal analyses

Thermogravimetric analysis (TGA), differential thermal analysis (DTA), determination of the melting temperature and melting enthalpy (DSC), determination of reaction temperatures and enthalpy of reaction, determination of thermal extension of solid bodies

Fire and fire-protection tests

Fire behavior compliant to, glow wire test/hot-scratch test, oxygen index, maximum average rate of heat emission (MARHE), fire test, fire tests on complete e-vehicle systems

Surface tests and coatings

Color measurement, coating-quality tests, Mercedes, Honda, abrasion, scratch and wear resistance, coating-thickness determination, cross cutting test

Plastics / thermoplastics

Density determination, tensile and flexure tests, fogging behavior, determination of bake-hardening and material requirements for injection-molded parts

Airbag materials and energetic materials

Airbag materialography, dust and gas analysis, characterization of airbag fabric and pyrotechnic propellants, environmental simulation and performance tests, material tests on igniters and modules

Environmental and emissions tests

Thermal desorption analysis, total carbon emissions, formaldehyde emission/determination, odor test, resistance to media

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| Technical Equipment

Microscopy & material analysis

Field emission scanning electron microscope, scanning electron microscope, stereo microscope, reflected-light microscope, metallography, confocal microscope

Computer tomography (CT)

Micro- to high-energy CT, micro-CT, nano-CT linear accelerator, CT for large objects

Thermal analyses & TGA / DSC

Macro thermogravimetric analysis (TGA), differential scanning calorimetry (DSC)

Spectroscopy & analytics

Fourier transform infrared spectrometer (FTIR), mass spectrometer (MS), gas chromatograph (GC), atomic absorption spectrometer (AAS), metal analyzer

Mechanical materials testing machines

Linear tester/scratch hardness tester, multi-impact tester, pendulum impact tester, universal testing machine/tensile testing machine

Fire & safety tests

Fire chamber for determination of the burning rate, UL94 fire chamber, test chamber with extinguishing and flooding functions, abuse test chambers with flue gas purification, high-temperature test chamber for batteries

Environment & climate tests

Environmental stress chamber, alternating-climate cabinet, climate test cabinet, sun simulation, xenon climate shock