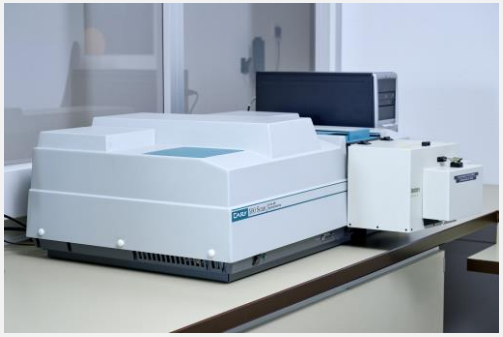
APM Technica
Adhesive & Surface Technology

TESTCENTER

EQUIPMENT LIST CHEMICAL / PHYSICAL LABORATORY

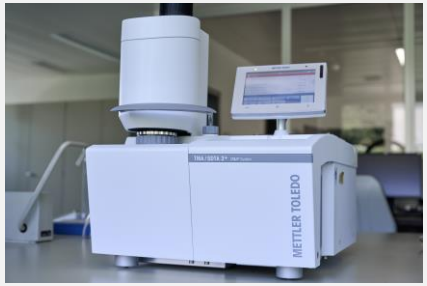
Our extensive expertise and lengthy equipment list help us surmount even the biggest challenges in measurement technology.

Infrarot spectrometer	Technical data	Areas of application
	• Perkin Elmer Spectrum 65 • Solid and liquid samples can be measured • Recording range (wavenumber): 4000 cm-1 to 600 cm-1 • Golden Gate Diamond ATR unit 5200 cm-1 to 650 cm-1	• Comparison of spectra with reference samples • Comparison of spectra with in-house database for material identification • Plastic identification • Silicone detection • Detection and identification of functional groups • Determination of low-volatility hydrocarbons

UN-Vis-NIR Spectrophotometer	Technical data	Areas of application
	• Varian Cary 500 Scan • Wavelength range: 200–2500 nm • Integrating sphere (250–2500 nm)	• Reflection measurement • Transmission measurement

Thermogravimetrische analysis (TGA)	Technical data	Areas of application
	• Perkin Elmer TGA7 • Weighing accuracy: up to 10 ppm • Sample capacity: up to 50 µl • Temperature range: ambient temperature up to 1000°C • Heating and cooling rates: 0.1 to 200°C/min in 0.1°C steps	• Determination of filling level for inorganic fillers in plastics (e. g., glass fibers) • Thermal stability • Outgassing

Differential scanning calorimetry (DSC)	Technical data	Areas of application
	• Mettler-Toledo DSC5+ • Temperature range: -90°C to 700°C • Heating rate: 0.001 to 200 K/min • Measuring method: Power Compensation or Heat Flux	• Characterization of materials (melting point, glass transition, crystallization, phase transitions) • Curing of adhesives (enthalpy, kinetics)

Thermomechanical analysis (TMA)	Technical data	Areas of application
	• Mettler Toledo TMA/SDTA 2+ IC/600 • Temperature range: -80°C to 600°C • Maximum sample length: 20 mm • Measuring range (length): -5 mm to 5 mm • Force range: -0.1 N to 1 N • Length resolution: 0.5 nm	• Measurement of coefficients of linear expansion • Glass transition temperature • Young's modulus measurements

Sureface tension measuring device	Technical data	Areas of application
	• Surftens Basic • Determination of surface tension by means of contact angle measurement	• Establishing surface condition with regard to good adhesion – for example, for adhesives and coatings

Rheometer	Technical data	Areas of application
	• Anton Paar MCR 302 • Temperature range: -40°C to +200°C • Cone plate • Parallel plate • Oscillation	• Measurement of viscosity • Determination of pot life • Oscillation for the determination of loss and storage modulus, for example

Colorimeter	Technical data	Areas of application
	• CM-700d Spectrophotometer • Color determination in the CIE L*a*b color space • Standard illuminant D65 for daylight and F11 for artificial light • Wavelength range: 400 nm to 700 nm	• Color difference recognition • Comparison with RAL colors

Gloss meter	Technical data	Areas of application
	• Reflektometer REFO 3 • Glanzgradmesser für die Winkel 20°/60°/85°	• Quantitative Messmethode zur Bestimmung von Mattheit / Glanz

Coating thickness gauge	Technical data	Areas of application
	• Fischer Isoscope MP30 • Eddy current-coating thickness gauge • Measuring range from 10µm to 1000µm	• Eddy current probe for measuring thickness of electrically non-conductive coatings on non-ferrous metals (Iso/NF)

pH / conductometer	Technical data	Areas of application
	• Metrohm 914 pH/Conductometer • pH range: -13.000–+20.000 • Conductivity range: 0.1µS–500 mS	• pH/Conductivity meter for measuring pH/mV/conductivity/TDS/salinity and temperature • Example: wastewater analysis

Digital measuring projector	Technical data	Areas of application
	• Keyence IM 8030 T **Precision measurement mode:** • Field of view: 225 x 125 mm (standard measuring mode 300 x 200 mm) • Measuring accuracy (±2σ): ±2 µm • Repeatability: ±0.5 µm **Additional measuring options:** • Light sensor measurement • Height measurement probe	• Automated measurements • Dimensional accuracy checks • Dimensional accuracy checks • Measurement of references in multiple axes

Interferometer	Technical data	Areas of application
	• Zygo Verifire™ HDX • Optical aperture: 6" • Reference flat: 6" Ultraflat • Resolution: 11.6 MPix	• Plane mirror surface deviations • Wavefront error in optical systems

Refractometer	Technical data	Areas of application
	• Mettler Toledo Refractometer Excellence R4 • Calculation index range: 1.32 - 1.70 • Temperature range: 0 - 100°C	• Measurement of the calculation index of liquid samples • Measurement of the calculation index of thin films