SULZER

Materials and Failure Analysis
Overview of Methods and Equipment

Sulzer Innotec

Our comprehensive analytical tools enable us to evaluate almost the entire range of materials, from the macroscopic to the nanometre scale. Both solid and liquid substances can be identified, analysed and quantified. Metals, ceramics, polymeric materials and their corrosion, oxidation and reaction products can be characterised. An assessment of surfaces and coatings is possible down to the nanometre scale. Our instrumentation includes equipment for analysing distribution of phases, measuring mechanical properties such as hardness, and for determining both static and dynamic mechanical response. If required, tribological or corrosion tests can be conducted.





	Elemental Analysis	Morphology, micro structure	Structure, Cristallography	Transforma-tions, Reactions	Mechanical
integral	GAS, CA, XRF, OES, GDOS, SEM, EPMA	LIMI, SEM, IA, PART, BET	XRD, DSC, DMA	LIMI, SEM, HT DILA, TGA, DMA, DSC, DTA	HEP, TMA, UH, SC
local	SEM, EPMA	LIMI, SEM, IA, AFM	SEM, AFM	LIMI, SEM, AFM	HAE, SC, UH, AFM
surface	GDOS, SEM, EPMA, (AFM)	LIMI, SEM, IA, AFM	(XRD), AFM	LIMI, SEM, AFM, (XRD)	HAE, DMA, AFM

Legends:

AFM	Atomic Force Microscope	GAS	Gas Hot Extraction Analysis	XRD	X-Ray Diffraction Analysis
IA	Quantitative Image Analysis	GDOS	Glow Discharge Spectroscopy	SC	Scratch test
BET	Spezific Surface	HEP	Hardness elastic and plastic	TGA	Thermogravimetrie
DILA	Dilatometry	LIMI	Light Microscopye	TMA	Thermal Mechanical Analysis
DMA	Dynamic Mechanical Analysis	OES	Optical Emission Spectroscopy	UH	Universal Hardness
DSC	Differential Scanning Calorimetry	PART	Particle Size Analysis	CA	Combustion Analysis
DTA	Differential Thermal Analysis	SEM	Scanning Electron Microscopy	HT	Heat Treatment
EPMA	Elektron Probe Microanalysis	XRF	X-Ray Fluorescence Analysis		

Our strengths Our experienced team of highly qualified specialists enables us to chose the right techniques for your problem and interpret results reliably.

Delivery Analyses can normally be delivered within 1-3 working days.

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