

Material Failure Analysis (defect analysis)

The last few years the analytical laboratory is more orientating to defect analysis and consultation of customers' technical problems. The Institute for Testing and Certification in Zlín has a long tradition to support the rubber and plastic businesses. The analytical equipment and experience on the field of polymer science makes it possible to give an accurate response to the customers' need. Not only quality control but also analytical support of the customers R&D divisions is one of our basic services.

We offer an accurate follow-up of your production process and close relation with your process engineers in order to ensure your success. The Institute for Testing and Certification developed the defectoscopy laboratory to offer 3 key steps in material failure analysis:

■ IDENTIFICATION THE NATURE OF DEFECTS

The analytical laboratory at ITC-Zlín is fully equipped by microscopic instruments coupled to several detectors (light microscope, electron microscope with EDX detector, microscope-FTIR). Fundamental element analysis till trace levels can be offered by use of XRF, ICP-OES, ICP-MS and AAS. The chromatography division is fully equipped with up to date GC and HPLC systems with several injection and detection systems. The use of special coupled techniques like thermal desorption-GC-MS, direct inlet-MS and pyrolysis-GC-MS have been proved to be very successful for defect analysis.

The physical laboratory at ITC-Zlín offers many tests to characterize the physical properties of material like: vibration tests, flammability, resistance tests to liquids, ageing tests under several conditions and electrostatic properties. According to the customers' need we can adjust the conditions of testing.

■ MEASURING INFLUENCING PARAMETERS

The analytical laboratory supports many R&D divisions by characterization, evaluating several production parameters and work out a diagnosis to get critical processes under control.

■ FORECAST AND PREVENTING DEFECT GROWTH

The Institute for Testing and Certification has the tradition to work very close to the client and their technology to assist into their needs. Also final consultation results in many cases to ``new`` approaches worked out scientifically and technically in the final test report. The symbiosis process engineer/technical management and our consultation might lead to prevention of defects and reducing costs after production in the future.

Please contact.

Jiri Samsoněk, phone +420 577 601 389, Fax. +420 577 601 389, e-mail analyt@itczlin.cz