

## Precision on a molecular level

### *Everything has a unique molecular fingerprint. Even Your Product.*

FT-IR analyses allow deep insights into the molecular structure of a material. The specific molecular signature is as unique as a fingerprint. No spectrum is like another. By comparing apparently identical samples, additives, oxidative and thermal influences or impurities can be detected from the smallest differences.

However, FT-IR analyses can do so much more than that. For example, in product development, they ensure a significant competitive advantage in the material choice and also identify the material composition of competitive products.



In the PCB manufacturing process, they enable the analysis of the cross-linking of a PCB substrate before the beginning of production and so prevent, for example, PCB distortion during the soldering process. This can occur if the printed circuit boards are not completely or irregularly cross-linked in their production process. Also, incorrect packaging can affect the manufacturing process if the PCB substrate absorbs too much humidity, and result in delamination during soldering process.

FT-IR analyses can identify problems that are hidden from established test methods. These production and storage problems can be detected in just a few minutes. The analysis results are available to the customer immediately after the measurement in digital form. FT-IR analyses support you in a resource-saving, trouble-free production process and help to reduce additional costs and avoid waste.

### **CONCLUSION:**

FT-IR analyses enable fast and efficient material identification, quality control on a molecular level and are essential for new product development as well as for process analysis. They help to reduce production waste and identify defects at an early stage.