



10 reasons why FT-IR is very suitable for the quality control of industrially manufactured goods

1. Easy to use

FT-IR spectroscopy is very easy to learn and can be applied by almost everybody. For this reason the FT-IR technology can be implemented in any quality control line at a very short time scale.

2. Universally applicable

FT-IR spectroscopy is applicable on solid materials, powders, coatings, liquids and even on gases. If the FT-IR device is initially established to control the quality of one product, its application range may be extended later on to the quality control of other products.

3. Cost effective

The original costs for an FT-IR spectrometer are moderate in comparison to other analytical equipment in the range of spectroscopy and chromatography. Due to the long life time of all the included components the maintenance costs are extremely low. As only electrical power is required for FT-IR and the power consumption is further very low, the operational costs are also negligible.

4. Very reliable and reproducible

FT-IR is a method which evaluates the interaction of light with the measured material. The results are very reliable and reproducible since the absorption of light follows fundamental physical laws and the FT-IR instrumentation is internally calibrated.

5. No consumables, no waste, sustainable

FT-IR does not require any consumables or chemical kits. Furthermore the FT-IR analysis typically is non-destructive. As the FT-IR method does not produce any waste it is environmentally friendly and sustainable.

6. Safe and non-toxic

During the FT-IR analysis the sample is just illuminated by infrared light. There is no chemistry with potentially toxic substances involved or harmful radiation applied. FT-IR is therefore very safe and does not endanger the operator.

7. Time effective

The typical analysis time for FT-IR is about one minute including data evaluation and reporting. As typically no sample preparation is required, the time of expenditure is very low for FT-IR.

8. Globally available

FT-IR instrumentation does only require a usual lab environment with electric power. As newer FT-IR spectrometers are equipped with optical materials resistant against very high humidity levels, the method is applicable all over the world.

9. Low space demand

The footprint of modern FT-IR instrumentation for quality control is very similar to the one of a laptop. Therefore only very little space on the lab bench is needed. Moreover FT-IR spectrometers are portable so that they may be moved to help resolving quality control issues at different production sites.

10. Valuable for reverse engineering

FT-IR typically reveals the chemical composition of any sample. This method is therefore not restricted to the quality control and failure analysis of manufactured products, but is also very suitable to understand the structure of any competitive product.

