



## ASTM E-204

### **Standard Practices for Identification of Material by Infrared Absorption Spectroscopy using the ASTM Coded Band and Chemical Classification Index**

These practices describe a data system generated from 1955 through 1974. It is in world-wide use as the largest publicly available data base. These practices describe procedures for identification of individual chemical substances using infrared absorption spectroscopy and band indexes of spectral data. Use of absorption spectroscopy for qualitative analysis has been described by many, but the rapid matching of the spectrogram of a sample with spectral data in the literature by use of a band index system designed for machine sorting was contributed by Kuentzel. It is on Kuentzel's system that the ASTM indexes of absorption spectral data are based.

#### **Summary of Practices:**

A representative sample of the material to be analyzed is separated into its individual components, and each component is introduced into a suitable sample cell or matrix, mainly according to its physical state. The spectrum is recorded over a characterizing range. The choice of spectral range and instrument is dictated by a general consideration of the chemical nature of the sample. A note is made of the spectral prominent absorption bands and of known chemical and physical properties of the material. The qualitative chemical composition of the material may then be identified by searching the coded data file for compounds having matching characteristics.

(E204, E-204, E 204)

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