

BOOK REVIEWS

Infrared Spectroscopy. Its Use in the Coatings Industry. Infrared Spectroscopy Committee of the Chicago Society for Paint Technology, Federation of Societies for Paint Technology, Philadelphia, 1969. \bar{X} + 456 pp. \$20.00 to members, \$30.00 to nonmembers.

The Infrared Spectroscopy Committee of the Chicago Society for Paint Technology has compiled an extensive volume covering infrared spectra of materials used in the coatings industry. The IR-12 spectrophotometer used for obtaining the high resolution spectra reproduced in this book also made it possible to extend the curves to the new region of the infrared spectrum between 650 and 200 cm^{-1} or 15.5 and 50 μ . The spectra of materials includes the many classes of polymeric binders, monomers, solvents, modifiers, extenders, additives, plasticizers, waxes, and inorganic pigments. Although the authors consider these spectra of importance to the coatings industry, the broad scope of this book should also be of value to infrared spectroscopists in allied fields.

In addition to the 740 infrared spectra, the authors included brief but comprehensive chapters covering the more important theoretical and practical aspects of infrared spectroscopy (e.g., infrared theory, instrumentation, experimental techniques, and spectra interpretation). The newer methods such as specular reflectance, attenuated total reflectance (ATR), multiple internal reflectance (MIR), cesium iodide, KRS-5 plates, and triple pressing for alkali halide pellets are also described. Instrumentation is explained in terms of the function of the individual component parts of the spectrophotometer. The importance of both positive and negative qualitative interpretation of spectra is stressed and methods for quantitative analysis of infrared spectra based on absorbance are explained in detail.

The assignment of characteristic infrared absorption frequencies to specific moieties is clearly presented in tabular form. The figures throughout the volume complement the text. Figure 7 on p. 5, due to printing space requirements, did not complete the words "overtone" and "fundamental." The spectra index is too general in that only classes of materials are listed. For example, 35 different spectra are listed under the simple heading "Acrylics." Since the book is principally a collection of infrared spectra and directed to the practicing infrared spectroscopist, a detailed index is of major importance for such a valuable reference text.

This book is recommended for use by scientific and technical personnel concerned with identification and characterization of polymers and other compounds used by the coatings and allied industries.

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