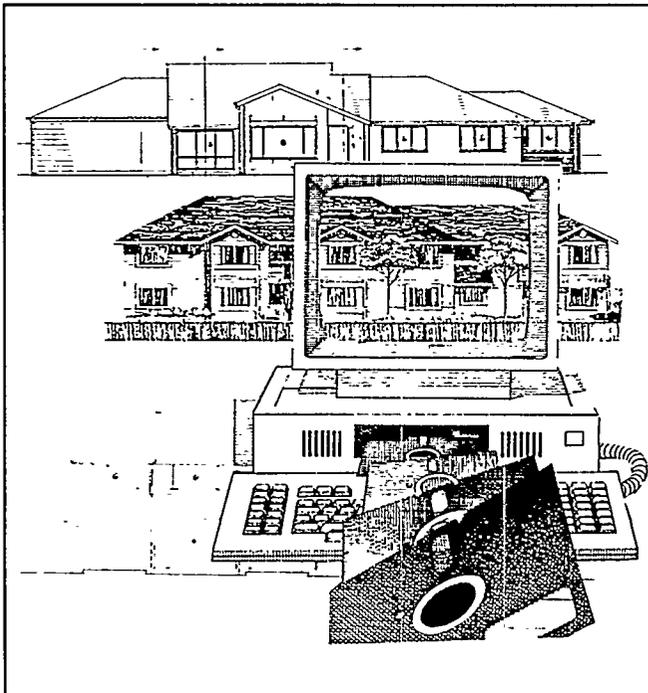


Computer-Based Conservation Standards for New Federal Residential Buildings

Early energy conservation standards for federal housing projects used simple criteria to guarantee improved energy efficiency in new homes. Unfortunately, these criteria often did not capture the most cost-effective energy conservation measures. In addition, there was no way to take account of the additive effects of combining conservation methods. These shortcomings prompted DOE to develop Energy Conservation Standards for New Federal Residential Buildings, the first computer-based standards in the United States. This user-friendly computer program calculates the most cost-effective combination of conservation measures and checks compliance with standards. Builders can now explore a wide variety of energy conservation measures quickly and inexpensively, submitting the most cost-effective combination when bidding on federal housing projects.



Computer-based standards for new federal residential buildings facilitate the calculation of the most cost-effective combination of energy conservation measures for federal housing projects.

Indoor Air Quality Field Studies Data Base

Experts believe indoor air quality is one of the most important public health issues of the 1980s. A better knowledge of indoor contaminants and their effect on people is required. The growing number of field studies on indoor pollutants has made obtaining information from technical literature overly time consuming. Consequently, DOE, EPA, the Electric Power Research Institute (EPRI), and the Gas Research Institute (GRI) have initiated an effort to create and support a computer data base of field studies that monitors concentrations of indoor pollutants in buildings in the United States and Canada. The Concentrations of Indoor Pollutants (CIP) Data Base provides information in microcomputer format on indoor air pollution concentrations in buildings from over 300 references. The CIP Data Base can be used to calibrate, verify, or modify macromodeling efforts designed to predict or characterize indoor pollutant concentrations. Over 200 groups or individuals have used the data base.

Window 3.0

Windows play an important role in the energy efficiency of a building, yet today there is no standard in the United States for determining the thermal performance of window systems. Industry support is growing for the establishment of a standard based on calculation procedures validated with lab or field tests. Developed by DOE in conjunction with the Lawrence Berkeley Laboratories (LBL), Window 3.0 is a PC-based program for calculating window ultraviolet light transmission, shading coefficients, and surface temperatures of glass layers. Window 3.0 is expected to become a key element in industry consensus standards and Congressionally mandated requirements. The program incorporates the best features of LBL's Window 2.0 program, now used by over 600 firms in the window industry. ASHRAE has used Window 3.0 to calculate new guidelines for window performance, incorporated into the ASHRAE *Handbook of Fundamentals*. The program is