

This document is an instructional manual which will facilitate use of the computer program F I R S T. (The name "F I R S T" is an acronym; it stands for FIRE Simulation Technique).

This is a prototype of a "benchmark" computer model of how a fire develops in a single compartment. Given a fire (or fires) ignited on one or more fuel sources.

F I R S T describes the principal phenomena which occur, such as the movement of gases in and out of the compartment, the growth of the fire(s), the development of hot layer, etc.

This guide is not meant to be documentation for the model, and so detailed descriptions of the physics or of the program structure have been kept to a minimum. The principal emphasis has been on how to input the information needed to run the program, and on the output obtained. Only a dozen pages of instructions are needed for the input, but an extensive section has been included which gives "worked examples" of the use of the program.

There is also a section which gives suggestions for using it to simulate fires and situations for which no explicit provision has been made. Finally, a short table of thermophysical data appropriate for running the program has been included.