Introduction

The symposium represented by this volume was the fifth in a series on fire test methods sponsored by ASTM Committee E-5 on Fire Tests of Materials and Construction. The objective of these methods has been the stimulation of more general awareness of the technical problems involved in both developing and using fire test methods and clarification of the role fire test methods appropriately play in achieving fire safety. Of course one of the goals has been the stimulation of progress in development of better test methods.

The planning of this Symposium took recognition of the fact that Technical Committee 92 of the International Organization for Standardization (ISO/TC 92) held a plenary meeting at the University of Maryland during the week of 3 October 1971. This provided the opportunity to organize the meeting with broad international participation. As a result, over one third of the papers presented were from overseas. The fact that most of the delegates to the plenary meeting attended the Symposium provided an effective way of encouraging the international rapport so appropriate in the development of fire safety test methods.

The need for sophisticated analytical methods in developing an understanding of fire problems must be emphasized. This results from the fact that the fire behavior we seek to measure through a fire test is seldom a simple well defined characteristic of a material or assembly but is usually strongly influenced by a large number of variables often quite independent of the items under study. Because of this we have leaned toward using test methods which characterize a combination of material, assembly, and fire exposure variables. While an argument may be presented to justify such overall performance test methods the procedure has proved risky and delusive in many situations where adequate understanding of the technical variables has not been developed. This situation seems apparent in the definition of ignition properties and noncombustible characteristics of materials. The papers presented here are offered as a route through which increased understanding can be derived in our search for improved test methods, proper application of which will hopefully yield greater safety from unwanted fires.

The papers will be of interest to architects, structural engineers, code and fire protection officials, and those concerned with improved fire test methods.

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