

SYMPOSIUM ON THE FULL-SCALE TESTS ON HOUSE STRUCTURES

INTRODUCTION

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House design and construction have been receiving increased attention during recent years as the volume of housing in all countries, and particularly in North America, has rapidly increased and as new systems of house construction have been introduced. The growing use of prefabrication as a major factor of the house building industry has served still further to direct the attention of architects and engineers to the development of rational methods for the structural design of house frames. Correspondingly, the desire to reduce the size of members and other details of standard house designs to the minimum consistent with safety and convenience, in the steady search for economy in house construction, has further stimulated research into the strength of house frames.

ASTM Committee E-6 on Methods of Testing Building Construction has a vital responsibility in this connection since its scope comprehends not only the development of test methods for building components, but also test methods for use with complete structures. ASTM Committee D-7 on Wood has a similar interest in this subject when structures built of wood are involved, as is so often the case with North American houses.

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It seemed appropriate, therefore that, the two committees should jointly sponsor the presentation of a group of papers describing full-scale tests which had been carried out on houses or similar structures, as a contribution to the Second Pacific Area National Meeting of the Society in September, 1956 in Los Angeles, Calif. The importance of wood as a building material on the West Coast gave added emphasis to this subject.

The five papers presented probably constitute the first published collection of papers descriptive of such full-scale structural tests of completed house structures. In a surprising and unpremeditated way, they complement one another to a remarkable degree. Study of the papers will show both advantages and disadvantages of this type of full-scale testing and will suggest further lines calling clearly for intensified research, directed towards further economy in the structural design of such buildings.

The complications of scale effect, especially where wood is involved as a building material, and the complex indeterminate character of the structures described in these papers, combine to show clearly why full-scale tests are a necessity in this branch of investigation. Such tests are costly, in time and money, so that everything possible should be gained from each test that is carried out. The appreciation of Committees E-6 and D-7

is therefore here recorded to the authors of these papers for thus sharing publicly the experience they gained for general benefit and the advance of house design.

Special mention must be made of the concluding paper which the Society has kindly agreed to include in the Symposium even though it was received after

the official closing date for the West Coast papers. It was, however, received in time to be summarized at the West Coast meeting. It describes an outstanding full-scale test and has the added interest of being perhaps the first paper from Australia to be published by the Society.