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PREFACE TO THE 22nd EDITION

THE 22nd edition of the HEATING, VENTILATING, AIR CONDITIONING GUIDE 1944 is presented by the Guide Publication Committee with many important changes and additions which conform to the established policy of providing Guide users with up-to-the-minute data on the latest proven developments in the art and industry. While wartime paper conservation measures have prevented any expansion of the text of THE GUIDE, it has been possible to add desirable new material, which has become available, in space saved by condensing present GUIDE text, without sacrificing essential data. A new chapter dealing with Marine Heating and Ventilation has been added because of the increasing demand for such data.

The tables of heat transmission coefficients in Chapter 4 have been completely revised and rearranged to include values for important materials and constructions not previously listed and to eliminate obsolete, or seldom used constructions. The factors for computing the coefficients, however, are substantially the same. Some changes have been made in the chapter on Fundamentals of Heat Transfer in the interest of simplification.

Revised information and tabular data on stratification of air in rooms with high ceilings have been incorporated in the chapter on Heat Load. Moisture permeability data for various materials have been added to the chapter on Cooling Load. New data on fuels and the combustion process have been added to Chapter 8. The latest degree-day data compiled by the Weather Bureau, together with new data on predicting residence heat loss, are included in the chapter on Estimating Fuel Consumption.

Chapter 9 on Chimneys and Draft Calculations is largely new, having been brought in line with recent developments, and includes a revised discussion of chimneys for gas heating. Chapter 10, dealing with Automatic Fuel Burning Equipment, has been extensively revised and contains new data on mechanical stokers, oil burners and gas-fired heating equipment, as well as important information on combustion processes, appliance adjustments, and furnace design. The section on Expansion Tanks in Chapter 16 has been rewritten.

The chapter on Pipe, Fittings and Welding contains entirely new data on commercial pipe dimensions as well as current information on threading practice. Chapter 19, Gravity Warm Air Furnace Systems, has been completely rewritten and brought up to date, and presents a simplified method of designing gravity warm air systems.

Chapters 24, Cooling, Dehumidification and Dehydration, and 27, Spray Equipment, have been thoroughly revised to improve the presentation of the material. Revisions and additions to Chapter 33, Sound Control, involve changes in the data on fan noises, clarifying the