

(PREVIEW)

## **EXPLANATORY HANDBOOK ON**

### **INDIAN STANDARD CODE OF PRACTICE FOR DESIGN LOADS (OTHER THAN EARTHQUAKE) FOR BUILDINGS AND STRUCTURES PART 3 WIND LOADS [IS 875 (PART 3): 1987]**

#### **SCOPE**

The aim of this Handbook is to provide detailed background information on the provisions of IS 875 (Part 3) : 1987 and the use of the standard for estimating wind loads on structures. The emphasis has been on the identification of source material used, philosophical ideas behind the changes in 1987 edition and guidance to the use of the standard. Clauses 0.1 and 0.2 of this Handbook contains background information, philosophical ideas, nature of wind and wind effects on structures. Clause 0.3 brings out the shortfalls of the earlier standard (IS 875: 1964), *vis-a-vis* wind zoning, risk level, wind velocity and its variation with height, dynamic analysis, effect of structure size and shape. Clause 2 explains the various terminology used in the standard. Clause 3 discusses the main features of the revised Code like new wind zoning map, estimation of design wind speed, concept of return period, effects of terrain roughness and structure size, local topography, correct velocity-pressure relationship. In Clause 4 wind pressure and forces on buildings/structures are discussed in light of pressure coefficient method. Details of force coefficient method are given in 4.3 while dynamic effects like along-wind and across-wind responses are explained in 5 and 6. Requirements of wind tunnel studies are detailed in 7. Clause 8 conducts the user to the various provisions of the standard with the help of flow diagrams. Clause 9 contains the methodology for the estimation of wind loads on low rise buildings, with the help of examples. Clause 9.3 is devoted to the estimation of dynamic effects of wind using gust factor method and contains typical solved examples of structures.

**NOTE** — All Clauses, Figures and Tables in Square Brackets in the Handbook Refer in Clause Numbers, Figure Numbers and Table Numbers of IS 875 (Part 2) : 1987, respectively