

***Indian Standard***

**CODE OF PRACTICE FOR DESIGN LOADS  
(OTHER THAN EARTHQUAKE)  
FOR BUILDINGS AND STRUCTURES**

**PART 3 WIND LOADS**

**( *Second Revision* )**

**1. SCOPE**

**1.1** This standard gives wind forces and their effects (static and dynamic) that should be taken into account when designing buildings, structures and components thereof.

**1.1.1** It is believed that ultimately wind load estimation will be made by taking into account the random variation of wind speed with time but available theoretical methods have not matured sufficiently at present for use in the code. For this season, static wind method of load estimation which implies a steady wind speed, which has proved to be satisfactory for normal, short and heavy structures, is given in 5 and 6. However, a beginning has been made to take account of the random nature of the wind speed by requiring that the along-wind or drag load on structures which are prone to wind induced oscillations, be also determined by the gust factor method ( see 8 ) and the more severe of the two estimates be taken for design.

A large majority of structures met with in practice do not however, suffer wind induced oscillations and generally do not require to be examined for the dynamic effects of wind, including use of gust factor method. Nevertheless, there are various types of structures or their components such as some tall buildings, chimneys, latticed towers, cooling towers, transmission towers, guyed masts, communication towers, long span bridges, partially or completely solid faced antenna dish, etc, which require investigation of wind induced oscillations. The use of 7 shall be made for identifying and analysing such structures.

**1.1.2** This code also applies to buildings or other structures during erection/construction and the same shall be considered carefully during various stages of erection/construction. In locations where the strongest winds and icing may occur simultaneously, loads on structural members, cables and ropes shall be calculated by assuming an ice covering based on climatic and local experience.

**1.1.3** In the design of special structures, such as chimneys, overhead transmission line towers, etc, specific requirements as specified in the respective codes shall be adopted in conjunction with the provisions of this code as far as they are applicable. Some of the Indian Standards available for the design of special structures are:

IS : 4998 (Part 1)-1975 Criteria for design of reinforced concrete chimneys: Part 1 Design criteria ( *first revision* )

IS : 6533-1971 Code of practice for design and construction of steel chimneys

IS : 5613 (Part 1/Sec 1)-1970 Code of practice for design, installation and maintenance of overhead power lines: Part 1 Lines up to and including 11 kV, Section 1 Design

IS : 802 (Part 1)-1977 Code of practice for use of structural steel in overhead transmission line towers: Part 1 Loads and permissible stresses ( *second revision* )

IS : 11504-1985 Criteria for structural design of reinforced concrete natural draught cooling towers

NOTE 1 — This standard does not apply to buildings or structures with unconventional shapes, unusual locations, and abnormal environmental conditions that have not been covered in this code. Special investigations are necessary in such cases to establish wind loads and their effects. Wind tunnel studies may also be required in such situations.

NOTE 2 — In the case of tall structures with unsymmetrical geometry, the designs may have to be checked for torsional effects due to wind pressure.