

WIND CODE EVALUATION

GUATEMALA

Evaluation conducted by Guillermo Santana

NAME OF DOCUMENT: "Normas Estructurales de Diseño y Construcción Recomendadas para la República de Guatemala" (*Recommended Structural Standard for Design and Construction for the Republic of Guatemala*)

YEAR: 1996

GENERAL REMARKS: Document elaborated by a technical committee, chartered in 1986, under the supervision of the Ministry of Communications, Transportation and Public Works of the Government of the Republic of Guatemala.

SPECIFIC ITEMS:

1. SCOPE

- 1.1 Explicit Concepts and Limitations**
- 1.2 Performance Objectives**

2. WIND HAZARD

- 2.1 Basic Wind Speed**
- 2.2 Topography**
- 2.3 Height above Ground (Case Specific)**
- 2.4 Ground Roughness (Number of Exposure Categories)**

3. WIND DESIGN ACTIONS

- 3.1 Importance Factors**
- 3.2 Scale Effects**
- 3.3 Pressure (Internal and External)**
- 3.4 Dynamic and Aero elastic Effects (Gust Effects)**
- 3.5 Directionality Effects**

4. METHODS OF ANALYSIS

- 4.1 Simplified Procedure**
- 4.2 Analytical Procedure**
- 4.3 Experimental Procedure**

5. INDUCED EFFECTS

- 5.1 Impact of Flying Objects**
- 5.2 Wind Driven Rain**

6. SAFETY VERIFICATIONS

- 6.1 Structure**
- 6.2 Claddings and Non-Structural Elements**

7. SMALL RESIDENTIAL BUILDINGS

RECOMMENDATIONS FOR CODE IMPROVEMENT

A grand effort was made in 1987 and 1988 by a very good group of practicing structural engineers to produce a broad document encompassing all aspects of structural design of buildings and other structures. However, the effort fell quite short. The present edition of this Standard was redrafted in 1996 but, unfortunately, it has a considerable number of holes. It gives a very good roadmap of what the committee felt were the necessary topics to be covered by a modern code, but lot of sections are simply missing and no schedule is offered for their inclusion in a future version of the document. One of these sections is Section 2-4 entitled “Viento y otros efectos meteorológicos” (Wind and other meteorological effects). In its place a “Pending edition” sign has been put in.

Also, one major conclusion that can be drawn by the reviewer is that it is imperative that a wind design code be put into the main document being evaluated. It is also necessary to establish the institutional support by which the periodical updating of the standard can be accomplished. Perhaps the creation or strengthening of existing regional professional organizations focused on code development activities is in order.