

### 6.4.3. Limitation of displacements

**6.4.3.1** – In cases where nonstructural elements or components are attached to two different points of the same structure experiencing different displacements, or attached to two different structural systems, the effects of relative displacements between the points of attachment shall be considered. Relative displacements shall be calculated from the results of nonlinear analysis of the structural system at Design Stage I-B for *Normal Occupancy Class* buildings (see 6.3.2) or at Design Stage III for *Special Occupancy Class* buildings (see 6.3.4).

**6.4.3.2** – Relative displacements of nonstructural elements or components,  $\delta_e$ , shall not be more than the value given in **Eq.(6.8)**.

$$\delta_e \leq (h_x - h_y) \frac{(\delta_i)_{\max}}{h_i} \quad (6.8)$$

where  $h_x$  and  $h_y$  represent the vertical distances of top and bottom attachment points, respectively, of the nonstructural element or component measured from the relevant floor level.  $(\delta_i)_{\max} / h_i$  is the allowable storey drift ratio specified in 6.3.2 for *Normal Occupancy Class* buildings and in 6.3.4 for *Special Occupancy Class* buildings.

**6.4.3.3** – Relative displacements of nonstructural elements or components attached to two different structural systems shall be calculated as the absolute sum of the maximum relative displacements at points of attachment and it shall not be more than the value given in **Eq.(6.9)**.

$$\delta_e \leq h_x \frac{(\delta_{iA})_{\max}}{h_{iA}} + h_y \frac{(\delta_{iB})_{\max}}{h_{iB}} \quad (6.9)$$

where  $(\delta_{iA})_{\max} / h_{iA}$  ve  $(\delta_{iB})_{\max} / h_{iB}$  represent the allowable storey drift ratios of the first and second structural systems, respectively, specified in 6.3.2 for *Normal Occupancy Class* buildings and in 6.3.4 for *Special Occupancy Class* buildings.

### 6.4.4. Nonstructural façade elements and connections

Glass or curtain wall façade elements of tall buildings shall be subjected to static and dynamic tests described in the following standards:

(a) “*Recommended Static Test Method for Evaluating Curtain Wall and Storefront Systems Subjected to Seismic and Wind Induced Story Drifts*”, AAMA 501.4-00, American Architectural Manufacturing Association, Schaumburg, Illinois, 2001.

(b) “*Recommended Dynamic Test Method for Determining the Seismic Drift Causing Glass Fallout from a Wall System*”, AAMA 501.6-01, American Architectural Manufacturing Association, Schaumburg, Illinois, 2001.

## 6.5. INDEPENDENT DESIGN REVIEW

Design of tall buildings according to this Code shall be peer reviewed and endorsed by independent reviewers in all design stages, starting from the structural system inception stage. The administrative structure of the independent design review process will be established by Dubai Municipality.