

Building Code Ontario,  
Reg 332/12, Under  
Building Code Act 1992

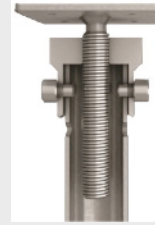
## When is Uplift Resistance legally required?

## GoliathTech Piles Head

## Non-conforming alternatives



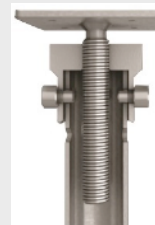
If the structure is more than 600mm (24 inches) off the ground the Ontario Building Code requires uplift resistance



If a structure (for example a terrace) is attached to a home, the Ontario Building Code requires uplift resistance



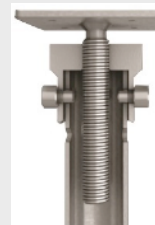
If a structure has a roof, the Ontario Building Code requires uplift resistance



If a structure has more than an area of 55 square meters of surface the Ontario Building Code requires uplift resistance



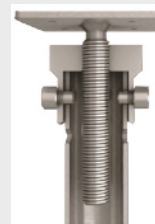
If the structure is more than one storey, the Ontario Building Code requires uplift resistance



If a structure is more than 4.3 meters (15 Feet) wide, the Ontario Building Code and CSA Z240.10.1 requires uplift resistance



All building frames must be anchored to the foundation unless a structural analysis of wind and earthquake pressures shows anchorage is not required



## UPLIFT RESISTANCE REQUIREMENTS

### BASED ON THE ONTARIO BUILDING CODE WHICH INCORPORATES REQUIREMENTS OF THE 2010 CANADIAN NATIONAL BUILDING CODE

#### 9.23.6. Anchorage

##### 9.23.6.1. Anchorage of Building Frames

1) Building frames shall be anchored to the foundation unless a structural analysis of wind and earthquake pressures shows anchorage is not required.

2) Except as provided in Article 9.23.6.3 anchorage shall be provided by

- a) embedding the ends of the first floor joists in concrete, or
- b) fastening the sill plate to the foundation with not less than 12.7 mm diameter anchor bolts spaced not more than 2.4 m o.c.

3) Anchor bolts referred to in Sentences (2) to (4) shall be fastened to the sill plate with nuts and washers and embedded not less than 100 mm in the foundation and so designed that they may be tightened without withdrawing them from the foundation.

##### 9.23.6.2. Anchorage of Columns and Posts

(1) Except as provided in Sentences (2) and (3), exterior columns and posts shall be anchored to resist uplift and lateral movement.

(2) Except as provided in Sentence (3), where columns or posts support balconies, decks, verandas and other exterior platforms, and the columns or posts extend not more than 600 mm above finished ground level, the supported joists or beams shall be,

(a) anchored to a foundation to resist uplift and lateral movement, or

(b) directly anchored to the ground to resist uplift.

(3) Anchorage is not required for platforms described in Sentence (2) that,

(a) are not more than 1 storey,

(b) are not more than 55 m<sup>2</sup> in area,

(c) do not support a roof, **AND**

(d) are not attached to another structure, unless it can be demonstrated that differential movement will not adversely affect the performance of that structure.

##### 9.23.6.3. Anchorage of Smaller Buildings

1) Buildings not more than 4.3 m wide and not more than 1 storey in building height that are not anchored in accordance with Sentence 9.23.6.1.(1) shall be anchored in conformance with the requirements of CSA Z240.10.1, "Site Preparation, Foundation, and Anchorage of Manufactured Homes.

