

**NC Department of Insurance  
Office of the State Fire Marshal - Engineering Division  
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**Pier and Curtain Wall Foundation Anchor Spacing in a 130 mph Wind Zone**

**Code:** 2018 Residential Code

**Date:** Sept. 16, 2020

**Section:** R4504.1

**Question:**

Using the prescriptive provisions of the Residential Code can the spacing of piers for Pier and Curtain walls in a 130mph wind zone be increased beyond the 4 ft. maximum allowed for anchor spacing in Section R4504.1 without doing everything required for walls and footings in the 140mph wind zone.

**Answer:**

No, Section R4504.1 requires ½” anchor bolts at 4 ft on center into masonry or slab on grade. The masonry may be a masonry wall or piers at 4 ft. on center that are part of a curtain wall system, the anchor bolts cannot be anchored into the curtain wall. For masonry walls or piers at 4 ft. on center the footings only have to meet the provisions of chapter 4, not the requirements of R4503.2. The masonry provides dead load weight to resist uplift and corrosion protection of embedded anchors. Section R4504.1 does not specifically require anchor bolts from the wall or pier to the footing. If a permit holder wants to use greater spacing of piers the permit holder may use the pier spacing, pier reinforcing, footing sizing and reinforcing from the 140mph wind zone. The permit holder may provide an alternate design that addresses the uplift and possible corrosion of unprotected steel anchors. Pier reinforcing, anchorage, increased footing size and reinforcing may be required. Total uplift may be determined from Table R4508.2. An inspector may ask for documentation of the alternate design.

**Keywords:**

Tiedown, tie down, hold down