

What's Happening in Masonry

by: Gary Porter



What good is a Parapetto?

Looking at many older buildings in Chicago it seems like the first thing to need re-pointing or removing and replacing is the masonry parapet. By definition: A parapet is a barrier which is an extension of the wall at the edge of a roof, terrace, balcony, walkway or other structure. The word comes ultimately from the Italian parapetto. Sometimes it can be like a fence or a railing for a roof deck, or maybe its purpose is to hide some mechanical equipment on the roof. Parapets may also be used to attach electrical (lights & conduit in picture below) or a fence? A fence like the one shown below needs some special design to withstand the elements and forces put on the parapet.



One building science author explains that historically parapets were installed for fire protection. There is a technical purpose of a parapet, to protect the roof edge from uplift wind forces. When wind blows against a building it produces vortices at the roof edges that create huge pressure differences at roof perimeters that can suck roofs off buildings. Parapets dramatically reduce these pressure differences at roof edges.

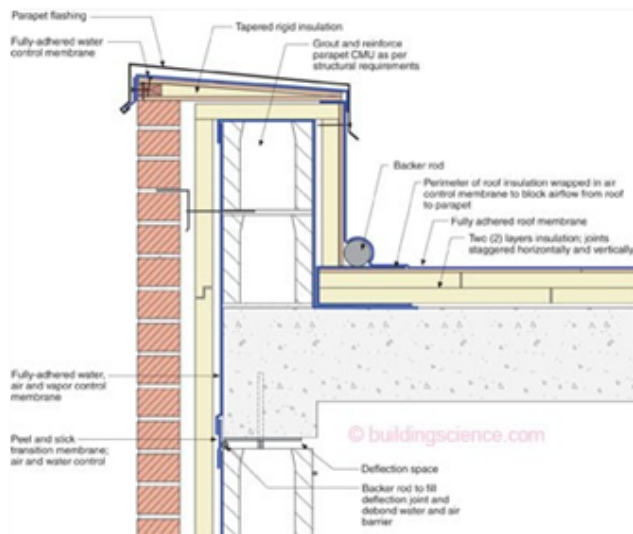
The parapet is where the masonry wall transitions from being an insulated masonry wall to an uninsulated masonry wall. Additionally, the wall is subject to moisture

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What good is a Parapetto? (cont.)

penetration on both sides now, typically, unless this is a veneer and with no heat from the structure it protects. The top of this wall also has to shed any water from coming directly into the masonry cavity part of the wall so this necessitates a cap of some design. The design of the parapet changes a little from the brick veneer detail to the exposed masonry on both sides design. Flashing is important and in today's world maintaining a vapor or air barrier is important. One designer shows a vapor barrier for the wall which is uninterrupted to under the roof, thus maintaining that barrier.



Cap design can be a well-designed piece of sheet metal, limestone or cast stone. Brick rowlocks are not a good cap design for the Chicago area due to freeze/thaw cycles.

The cap should have a drip edge to keep water away from the parapet. If limestone or cast stone are used a stainless steel drip edge and a drip in the stone cap will help keep water out. Parapet heights are not to exceed the thickness by 3 times. If the parapet is beyond 3 times the thickness additional support is necessary.

