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## CrystaLite Technical Brief

**Topic:** Glass Guards With No Top Rail

**Product:** Infinity Series Rail

The Infinity Rail becomes a code compliance issue when the railing is intended to be used as a guard. Guards (railing) are required where a walking surface is open to a floor or grade more than 30 inches below (fall hazard).

Per both the 2009 IBC and IRC as currently adopted by Washington, Oregon, Idaho, Montana and California, glass guards without a top rail are only allowable **when approved by the Building Official**. The requirements differ between the IRC and IBC.

Note that not all residential construction falls under the scope of the IRC. All buildings within the scope of the IRC are limited to three stories. For example, a four-story single-family home would fall within the scope of the IBC, not the IRC.

In both the IBC and IRC, glass used as infill panels in handrails and guards is limited to single fully tempered glass, laminated fully tempered glass or laminated heat-strengthened glass. Per IBC, glass as guards without a top rail is further limited to one of the laminated configurations.

Structural requirements for guards in both the IBC and IRC are the same, requiring 800 lbs. point load (200 lbs. x safety factor of 4) applied to the top edge of the glass. At this point, we have tested 7/16" FTL and 3/8" tempered lites in the Infinity Rail, both at 42 inches high. Testing exceeds the loading requirement.

Due to the fact that the code compliance of the Infinity Rail is subject to the approval of the local Building Official, we may choose to provide a quote for both of the following:

Per IBC (standard):

- Glass: 7/16" Fully Tempered Laminated (FTL)
- Height: 42 inches

Per IRC (as an exception to IBC)

- Glass: 3/8" Tempered
- Height: 36 inches (42" required for California)

It is worth noting that competitor products may not meet these same code requirements (laminated glass and/or 800 lbs. point load on the glass) and the Building Official may not be as familiar with these requirements as they have changed.

For more information, please visit us online at [www.CrystaLiteInc.com](http://www.CrystaLiteInc.com), where we have a more detailed explanation of the Infinity Rail code compliance referencing back to the 2006 through the upcoming 2012 I-Code revisions.

Thank you for your attention in this matter.