May 28th, 2021

ICC - 500 New Jersey Avenue, NW
6th Floor, Washington, DC 20001

Re: IBC 2018 Section 1708.2 applicability to the field testing of Fall Arrest Anchors:

Dear Code Opinion Staff:

1) Is it an IBC requirement to test every installed fall arrest anchor to the "factored design load" of 4,960 lbs. (1.6 Live Load Factor x 3,100 lbs. ←Service Load per Section 1607.10.4), or can the in-situ test requirement of this section be used to test only a representative sample of one (1) of each fall arrest anchorage type provided a project?

2) Is the in-situ test, to the minimum "factored design load" level, the only option when there is "reasonable doubt" regarding the structure's (anchor and/or supporting structure) stability or load-bearing capacity? In other words, can rational structural analysis, with known material properties and satisfying the material design code standards, by a registered design professional alone be the basis of the engineering assessment, as implied by Section 1708.1?

The reason we are asking for this clarification is that an anchorage may be capable of supporting a 5,000 lbs. "Ultimate load" without fracturing, however, when it is field tested to that load the anchor may permanently deform and not recover 75 percent of the maximum deflection after removal of the test load, as required by 1708.2.2 Item 2, if that anchor was designed by the LRFD Method. According to OSHA, fall arrest anchorage with permanent deformation must be removed from service, even if its material (or the supporting material) has not been fractured and it passed the load test. This would create the bizarre situation of designing an anchor for 5000 lbs. Ultimate Load via the LRFD Method, field testing it and allowing for small plastic deformations (i.e., the LRFD Method), and then removing it from service only to reinstall another anchor and repeat the cycle.

Thus, once one anchor kind is in-situ load tested to 5,000 lbs. and proves capable of passing the test, could the balance of installed anchors of the same kind be load tested to 2,500 lbs. that OSHA acknowledges? https://www.osha.gov/laws-regs/standardinterpretations/2019-01-25. If not, what does the ICC recommend?

Thank you,

Gus Strats, President Summit Anchor

Thank you,

Leo Dumond

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