

Contact Lap Splices in Shotcrete (Gunitite) Swimming Pool Construction

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It is common in swimming pool construction to lap splice reinforcing bar when a continuous bar is not feasible. Many building inspectors have issued correction notices regarding the use of contact lap splices instead of non-contact lap splices in shotcrete and gunitite construction in accordance with Section 1914.4.3 of the 2006 International Building Code. This article is meant to provide information supporting the use of contact lap splices since the requirement for non-contact lap splices is somewhat unusual for swimming pool construction throughout the State of California.



Section 1913.4.3 of the International Building Code states:

“the use of contact lap splices necessary for support of the reinforcing is permitted when approved by the building official, based on satisfactory pre-construction tests that show that adequate encasement of the bars will be achieved, and provided that the splice is oriented so that a plane through the center of the spliced bars is perpendicular to the surface of the shotcrete”

Government agencies throughout California typically have permitted (and are continuing to permit) contact lap splices for gunitite swimming pool construction. I believe that the *pre-construction tests* mentioned in IBC 1913.4.3 is, in reality, the hundreds of thousands of gunitite swimming pools that have been built during the last fifty years without significant problems from the use of contact lap splices.

It is my opinion that significant problems have not occurred from the use of contact lap splices because swimming pools are typically constructed with #3, grade 40 reinforcing bars that are easily encased by the gunitite process for satisfactory re-bar development.

Due to the substantial additional labor and resultant cost to install non-contact lap splices, it is this firm's professional opinion that contact lap splices should be permitted for reinforcing steel installed in gunitite swimming pools constructed from Pool Engineering, Inc. Standard Pool structural Plan.

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