



DSF No. 7001

Subject: Diamond Snap-Form ICF Code Considerations

Date: February 2011

With the multitude of lightweight concrete forming systems in the construction market, building officials are raising questions about code compliance and/or code evaluation reports for these systems. The two basic types of lightweight concrete forming systems are foam blocks and the plank and tie systems. Block-type systems reduce the area of concrete in the wall and may be required to have evaluation reports to address their design. The plank and tie forms, generally, do not reduce the volume of concrete in the wall; therefore, separate evaluation reports for the capacity of the finished concrete wall are not required for plank and tie systems.

The Diamond Snap-Form (DSF) ICF System is a plank and tie system which does not change the physical properties or the configuration of the concrete wall. It functions identically to a plywood or metal form system. That is to say, the form holds the wet concrete in place until the concrete has sufficient strength to support itself. The design requirements for the concrete formed with the DSF ICF System are the same as with any other concrete wall. Rebar is still required in the horizontal and vertical directions as designed by the structural engineer or stipulated by code minimums.

Various sections of the codes that deal with concrete formwork state that the design of the formwork shall include consideration of rate and method of placing concrete and construction loading. Pursuant to these codes, building officials have requested to see structural information on the validity of the DSF ICF System.

Calculations for the spacing of the Diamond Snap-Ties and the capacity of the EPS are included with this technical bulletin. DSF has conducted field and laboratory testing which determined tension values for the Diamond Snap-Ties (6", 8", and 10") at 450 - 650 pounds.

Based on this data, DSF recommends that a pour rate of three to four feet per hour is appropriate. This, as well as the minimum bracing needed to assure plumb and true walls, is shown in our technical data.

The Foam-Control EPS with Perform Guard used in the DSF ICF System is produced under a third party quality control program and is UL listed with flame spread and smoke development ratings that meet major model building codes.

Diamond Snap-Form is manufactured by Big Sky Insulations, Inc.

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