**Cutting wall to make windows**

<https://www.greenbuildingadvisor.com/question/modifying-existing-icf-walls>

**Modifying Existing ICF Walls**



[**ledICF**](https://www.greenbuildingadvisor.com/profile/ledICF) | Posted in [Green Building Techniques](https://www.greenbuildingadvisor.com/qa/green-building-techniques) on April 22, 2017 09:10am

We are considering purchasing a house built completely with ICF walls. Our purchase is predicated on being able to expand windows in two areas and lengthening a current window area to install french doors to a deck. The expansion of the windows would involve removing the wall between two windows and installing a wider three panel window.

Is this possible with ICF construction. If so what are the key things that must be considered in making these modifications.

[**Martin Holladay**](https://www.greenbuildingadvisor.com/author/user-756436) | Apr 22, 2017 10:06am | [#1](https://www.greenbuildingadvisor.com/question/modifying-existing-icf-walls#comment-56324)

Ledicf,
Ideally, the rebar above each window is designed to handle the load and transfer it to the "jambs," just like a header in a wood-framed house.

If your walls have adequate rebar, you can make your window rough openings bigger with a concrete saw. If you need more rebar, you'll also have to remove concrete above the windows to pour what amounts to a bond beam. If in doubt, consult an engineer.

-- Martin Holladay

[**Michael Maines**](https://www.greenbuildingadvisor.com/author/Michael_Maines) | Apr 22, 2017 10:32am | [#3](https://www.greenbuildingadvisor.com/question/modifying-existing-icf-walls#comment-56326)

The main issue will be creating a structural header over the new openings. ICF manufacturers sometimes have prescriptive guides for casting in reinforced concrete headers, but for various reasons you will likely need to use a solid steel header for the new span. You'll need to hire a structural engineer to size the steel header. If there is a high percentage of openings compared to solid wall, they may require additional wall reinforcement.

Edit to add: it's hard to pour a new header in place, and the rebar in a cast beam needs either a certain amount of development length on each side of the opening--enough to "bite" into the concrete--or specially designed hooks at each end. For a small opening it's nothing to worry about, but for longer spans it is. Solid steel--an "I" beam, C-channel or box channel--will be easier to retrofit. Architects like box channels but they are prone to condensation on the interior so it's better to use an open shape.

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Is it hard to add a window later?

It is not hard, but it is different. Instead of using a reciprocating saw, you use a concrete saw (there are many companies that specialize in cutting openings in concrete) to create your new window opening, line it with lumber, and install the window.