



High Performance Housing — FAQ

2006 IRC

Cladding Attachment over Insulating Sheathing

Q: *How do I attach my siding, if I don't use wood sheathing? Does the code allow for attachment back to studs at 24" centers?*

A: The Code provides specific prescriptive guidance on cladding attachment and allows you to attach cladding at 24" centers.

In the 2006 International Residential Code (IRC) cladding attachment requirements are covered in Section R703 Exterior covering with the majority of the requirements summarized in Table R703.4 Weather-resistant siding attachment and minimum thickness.

When sheathings other than wood or wood structural panels are used (such as foam plastic insulating sheathing), the code requires that the cladding be fastened back to the studs. The stud spacing is not specifically stated in Table R703.4 Weather-resistant siding attachment and minimum thickness and therefore other sections of the code must be referenced for acceptability of stud spacing. This information is found in Section R602.3.1 Stud size, height and spacing in conjunction with Table R602.3(5) Size, height and spacing of wood studs listing that studs spaced at 24" centers are acceptable for certain walls.

Depending on the type of cladding, thickness of cladding, and type and thickness of sheathing different fasteners may be required. The penetration depth of the fastener into the stud is the basic requirement. For most claddings the fastener length is specified since the cladding and sheathing thickness is known, a minimum penetration depth is assumed. Where the sheathing thickness is variable (such as with foam plastic insulating sheathing), the fastener size needs to take into account the siding thickness and thickness of sheathing and still provide a

minimum of 1" to 1.5" penetration (depending on the cladding type) into the stud.

Table R703.4 Weather-resistant siding attachment and minimum thickness is basically unchanged from the 2003 IRC except for the addition of fastener requirements for fiber cement siding over foam plastic sheathing. Where previously no direction was listed (a dash mark was listed in the box) the 2006 IRC now allows the fastening of fiber cement siding over foam plastic sheathing with the use of minimum 6d corrosion resistant nails with the provision that the nail length take into account the thickness of the sheathing to provide a minimum penetration of 1.5 inches into the stud framing.

In many cases furring strips are included in the design of the wall cladding to create a ventilation and drainage space behind the cladding. In this configuration it is often preferable to fasten the cladding to the furring strips instead of back to the studs. Unfortunately the code does not specifically cover this cladding system configuration so engineering may be required to design the cladding attachment to meet the cladding wind load requirements for the area.

Applicable Code Sections:

2006 International Residential Code for One- and Two-Family Dwellings

- R602.3.1 Stud size, height and spacing
- Table R602.3.1 Size, height and spacing of wood studs
- R703 Exterior covering
- Table R703.4 Weather-resistant siding attachment and minimum thickness