

Please Note: If you're new to Revit, you may be interested in my "[Beginner's Guide to Revit Architecture](#)" **84 part video tutorial training course**

. The course is 100% free with no catches or exclusions. You don't even need to sign-up. Just enjoy the course and drop me line if you found it useful. The [full course itinerary can be viewed here](#)

Welcome to this Revit Zone article on Walls Wraps and Wall Closures. In this article we are going to explain what Wall Wrapping is, when it is used and how you can control it. We will also discuss Wall Closures and how you implement them in your own custom insert families.

So without further ado, let's crack on and take a look at Wall Wraps. I am going to explain this by the use of graphical examples- by far the easiest method of explaining most concepts within Revit. Here is a simple length of wall, straight out of the default Revit Metric Library.....

The Wall Type that I have used here is "Basic Wall Exterior-Render on Brick on Block". I have chosen this Wall Type as it has quite a few layers within its composition. This is great for helping us to look at the concept of Wall Wraps. You will notice that at each end of the wall, each layer just stops- as if the whole wall had come out of a sausage-making machine. The wall appears as one long extrusion. In reality when we build walls in real life, very rarely are they actually constructed in this manner. More usually, the various layers that make up the wall are "returned" at openings (ie doors, windows, vents, etc) and at their ends. This is to both close any cavities that are present in the wall and also to tidy-up their visual appearance.

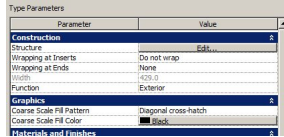
Luckily Revit has the ability to tidy-up the layers in a wall each time they encounter an opening or wall end. This function is called "Wall Wrapping". Let's take a look at this in practice.

I am now going to drop a default window into our wall and we can then see how Revit treats the wall layers where they meet our insert. Here's our inserted window component.....

Oh, that's a bit of a disappointment. The window has been inserted into the wall, but every wall layer has just been cut-through. Nothing has really happened. Let's find out why. First I am

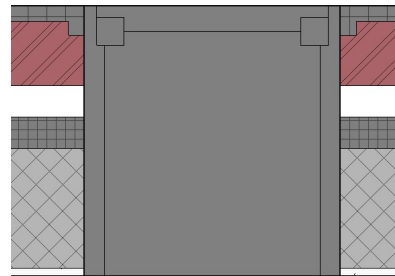
going to select the Wall, and then in the Properties Panel I am going to select "Edit Type"

The top section of the Type Properties panel (for our selected Wall) is related to "Construction". If we look at this section we can see that we have Parameters for "Wrapping at Inserts" and "Wrapping at Ends"

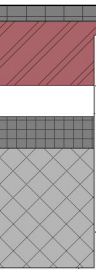
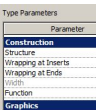


You will notice that these two Parameters are set to "Do not wrap" and "None" respectively. As you have probably just guessed- this is why our wall layers do not currently do anything interesting at the ends of the wall or where they meet an insert (door, window, etc). Let's take a look at what options we have for each of those parameters. Starting with "Wrapping at Inserts"

The choices we have are "Do not wrap", "Exterior", "Interior" or "Both". Obviously we know what "Do not wrap" does! But what about the other options. Well, "Exterior" tells Revit to 'wrap' all the layers on the Exterior side of the wall back to the "Wall Closure" line. Let's see this in practice by changing the Parameter to "Exterior"

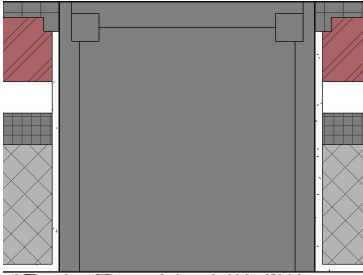


If you look carefully near the top of the image you will see that the outer most layer (Render) has been returned in towards the centre of the Wall. Now you may well be asking at this point "what controls how far the layers are returned?" Don't worry! We are going to cover that in detail. But before we do, let's try a different value for our parameter. Let's now try "Interior"



OK. Now the exterior layer has 'unwrapped' itself and the inner most layer has wrapped upwards. If we select "Both" as our value for the parameter- both outer most and inner most layers will wrap and actually meet

Wall Wraps and Wall Closures



Basic Wall

Family: Basic Wall
 Type: Exterior - Render on Brick on Block
 Total Thickness: 429.0
 Resistance (R): 0.0000 (m²K)/W
 Thermal Mass: 0.00 kJ/K

Sample Height: 2000.0

EXTERIOR SIDE					
Function	Material	Thickness	Wraps	Structural Material	
1	Finish 1 [4]	Masonry - Br	100.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Thermal/Air L.	Insul. Air Layer	50.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Thermal/Air L.	Insulation F	50.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Membrane La	Vapour / Mos	0.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Core Boundary	Layers Above	0.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Structure [1]	Masonry - Co	100.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	Core Boundary	Layers Below	0.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	Finish 2 [5]	Plasterboard	12.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>

INTERIOR SIDE

Basic Wall critical layers are defined in the table. The table lists the layers from the exterior side to the interior side.

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Wrap positive image, or the reference plane, take a look at this property.

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Reference Planes (1)	
Construction	<input checked="" type="checkbox"/>
Wall Closure	<input checked="" type="checkbox"/>
Identity Data	<input type="checkbox"/>
Name	Closure
Extents	<input type="checkbox"/>
Scope Box	None
Other	<input type="checkbox"/>
To Reference	Not a Reference
Defines Origin	<input type="checkbox"/>