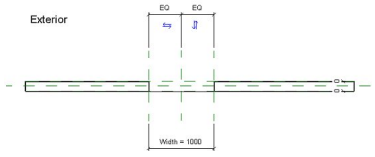
Please Note: If you're new to Revit, you may be interested in my " **Beginner's Guide to Revit Architecture** " **84 part video tutorial training course** . The course is 100% free with no catches or exclusions. You don't even need to sign-up. Just enjoy the course and drop me line if you found it useful. The full course itinerary can be viewed here

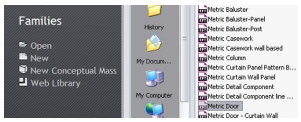
Welcome to the second part in this series of articles in which we explain how to **create your own Door Family** using the Family Editor, in Revit Architecture. If you have missed the first part in this series, you may wish to start here .



In this article we will take a look at **Family Templates** and in particular, the **Metric Door Template** . We will briefly discuss Instance and Type Parameters and examine how they control the geometry of

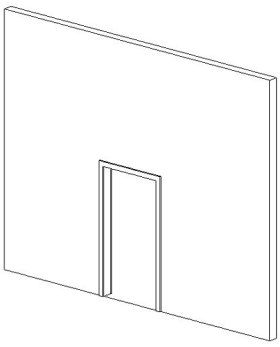
your custom door family.

Let's get started by loading up the **Metric Door Template**: Depending on where you are in the world, you may be using a different Revit Library format- ie Imperial, etc. The units may differ, but all the principles and concepts we will be discussing will be the same. From Revit's "
Recent Files
" screen, I am going to open the "Metric Door" template…..

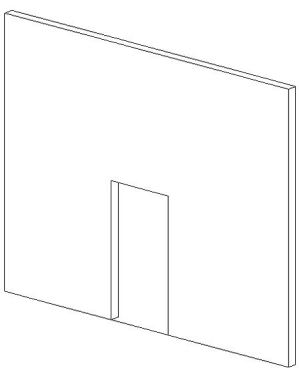


Because we are opening a Family Template, Revit automatically starts in "Family Editor" mode. I am assuming (for the purpose of this particular series of articles) that you have a basic familiarity of the Family Editor. If not, please read this article first .

This basic Door template is what you will use for the creation of your loadable door components, in almost all cases. Let's switch to a 3D view and take a look at what our template consists of…..

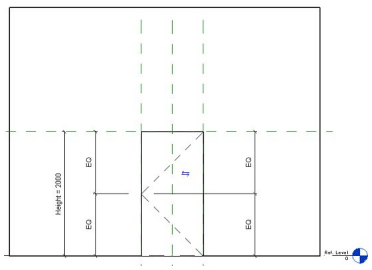


So we have a section of wall, a basic opening formed in the wall and what appears to be an architrave around the opening- on both sides of the wall. Now as I want you to learn how to create everything from scratch, I am going to go ahead and delete both architraves- we will then form our own in due course. Go ahead and select each architrave and delete them. We are now left with a blank opening…..

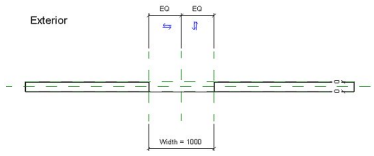


This is now the bare minimum we need in order to create our own door family- a piece of wall and an opening in it! Don't worry about the width of the wall of the dimensions of the opening- we are going to explain how these work in due course.

I'm now going to switch to an elevation view of our family and then a plan view. Here are the two respective views. First the elevation….



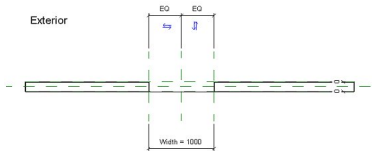
And then the Plan view……



Let’s discuss each of them in turn. First the Elevation. Now, there are a few key things that I want you to notice. First of all the Reference Planes. These are the green dashed lines around the opening. And then the dimension labelled “Height”. In fact the 3 elements (Reference Lines, Opening and Dimension) are intrinsically linked- and it’s crucial that you understand their relationship.

The Reference Planes CONTROL the size and position of the opening itself. The Dimension CONTROLS the height of the horizontal Reference Plane at door head height. So to summarise: Dimensions CONTROL the positioning of Reference Planes and Reference Planes CONTROL the positioning of the 3D geometry- which in this case, includes the Opening itself.

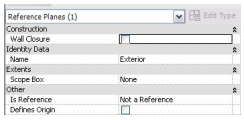
Now let's move onto the Plan View. Here it is again for reference…..



Again, there are some VERY important things to notice and discuss here. Firstly the Reference Planes. There are a number of Reference Planes here. Horizontally, there is one running along the centre line of the wall. This will ALWAYS lie on the centreline of your wall (regardless of wall thickness) when you add your door family to a wall element, in the Project Environment.

What isn't clear from the image above is that there are Reference Planes on the Interior and Exterior faces of the section of wall, in the template. These Reference Planes are CRUCIAL- as they enable you to refer your geometry (with regards it position / size) back to the external faces of any wall (regardless of the wall type or thickness)

Vertically, three Reference Planes can be seen. The one in the centre will always be the centre of the insertion point, when placing your door in a wall, in the Project Environment. The other two Reference Planes (running vertically up the screen in our plan view) are the left and right side of the opening- so are in fact, the same Reference Planes we saw in elevation. All the Reference Planes in this template are names. Just select any of the Planes and take a look at it's Properties to see it's name. Below are the Properties for the Reference Plane which lies of the Exterior face of the wall….



Also notice the "Width" dimension in the Plan view. Just like in the Elevation view, the Width dimension CONTROLS the Reference Planes, which in turn CONTROL the width of the Opening.

In the next article we will use a Sweep to form the door frame and architraves. We will look at

how to use Reference Planes (both the defaults planes and additional ones that we will create) to control the size and location of the door frame and architrave.