



REVIT PURE PRESENTS  
**PAMPHLETS**



**ISSUE #20 / SPRING 2021**

**PHASES**  
**PART 2**



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# PAMPHLETS COLLECTION



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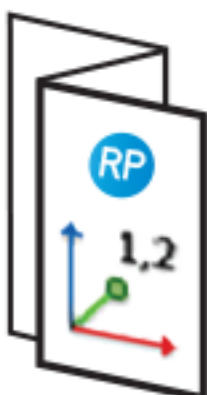
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# PAMPHLETS

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## WHAT IS THIS “PAMPHLET” ?

Revit Pure Pamphlets are published 4 times a year by email. Each edition covers a very specific Revit theme. We like to pick themes that are complex and confusing. Our job is to make these topics simple for you.

## WHY PHASES?

Pamphlet #3 about Phases was released all the way back in 2016. While some things have changed, most of it is the same. This new pamphlet will jump into advanced topics, so make sure you are mastering the phases basics:

<https://revitpure.com/s/RP-Pamphlet3-Phases.pdf>

There's a lot to talk about with phases! This pamphlet will be based on a recent episode of Revit Pure Live that you can watch here:

Here's what we'll discuss: using double patterns features introduced in Revit 2019, creating demolished floors and ceilings finishes patterns and how Revit 2022 completely changed the game when it comes to phases.

Enjoy.

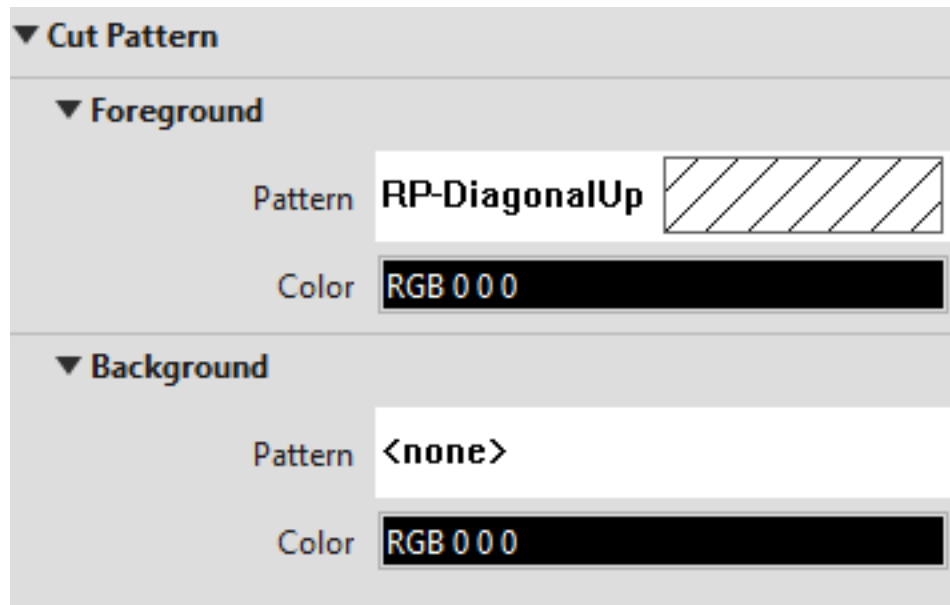


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## USING DOUBLE PATTERN WITH PHASES

The Revit 2019 update was a huge deal when it comes to phases. It introduced the **Double Pattern** feature. In the example below, you can see how we combine the material patterns with the phases pattern to create an existing brick wall.



### MATERIAL CUT PATTERNS

Phase Status	Cut	
	Lines	Patterns
Existing		

### PHASES PATTERN OVERRIDES



### BRICK WALL GRAPHICS RESULT



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This feature means you can easily create phases graphics overrides to represent existing elements without losing materials' patterns. That wasn't possible before Revit 2019.



**NEW WALL**



**EXISTING WALL**



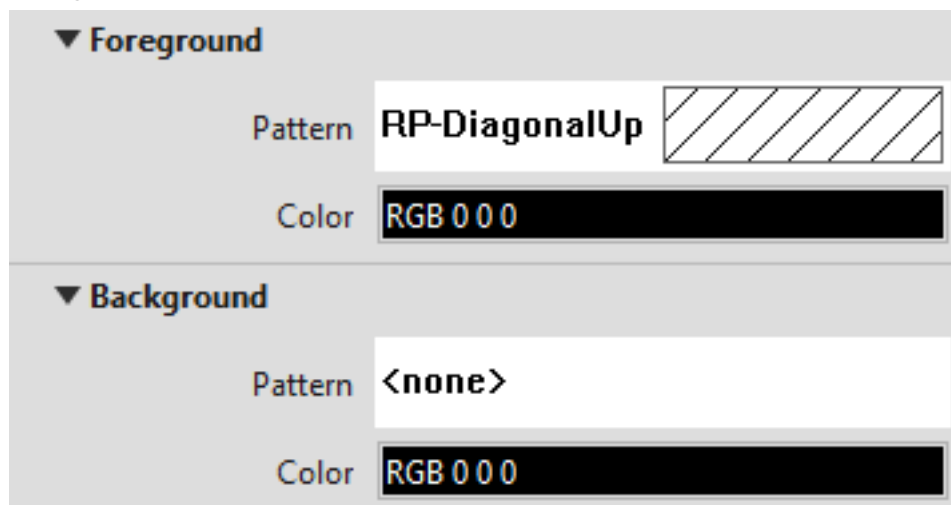
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## DOUBLE PATTERN STRATEGY

Always use the **foreground pattern for lines** representing a material and **background pattern for solid fills**. If you set the solid fill in the foreground, you will override the material pattern information and lose graphical components.

Again, the background pattern in the material properties should always be set to none, just like this:



This way, you'll be able to mix material's foreground with overrides background without being scared of losing information.





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## WATCH OUT WITH MATERIAL OVERRIDES

In the graphics override menu, you can choose to pick a material override. While it can be helpful, it comes with some issues. For example, if you have a wall with multiple layers of materials, the layers will all be gone and replaced with a single layer. Here is an example:

In the example below, the phasing overrides don't have a material set. On the right, the phasing have a material overrides. It replaces every layers of the wall.

Phase Status	Material
Existing	



**NO MATERIAL OVERRIDES**

Phase Status	Material
Existing	RP-Phase-Existing



**MATERIAL OVERRIDES**





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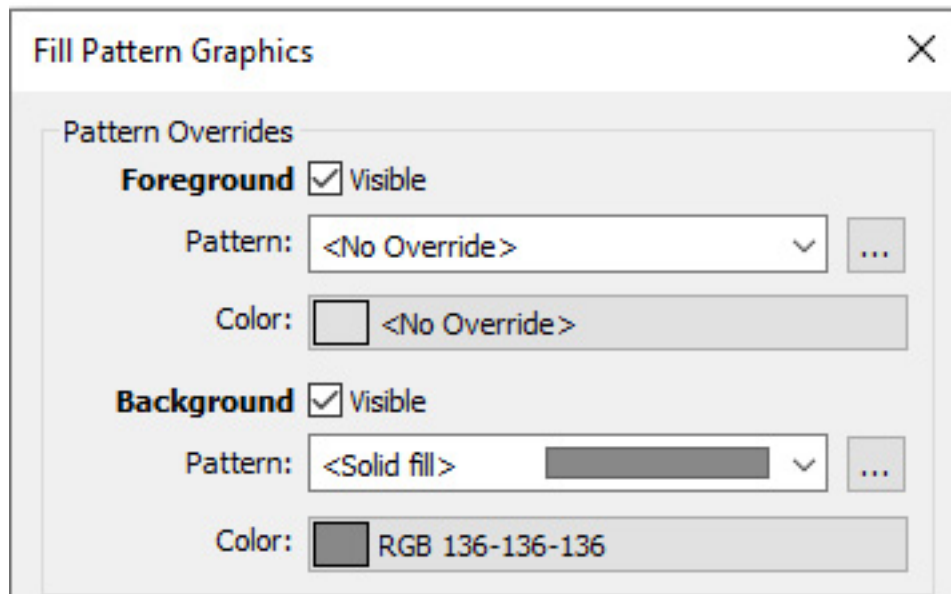
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## UNDERSTANDING PATTERN PRIORITY

There are multiple subtleties in the way you can set pattern overrides with phases. It can be done with the phase pattern overrides, but also with the phase material override. Here is the priority list:

- 1- Phase Pattern Overrides
- 2- Phase Material Override
- 3- Element Material

A subtle feature of the Phase Material Override is that the background pattern is never used. Only the foreground pattern can have an effect.



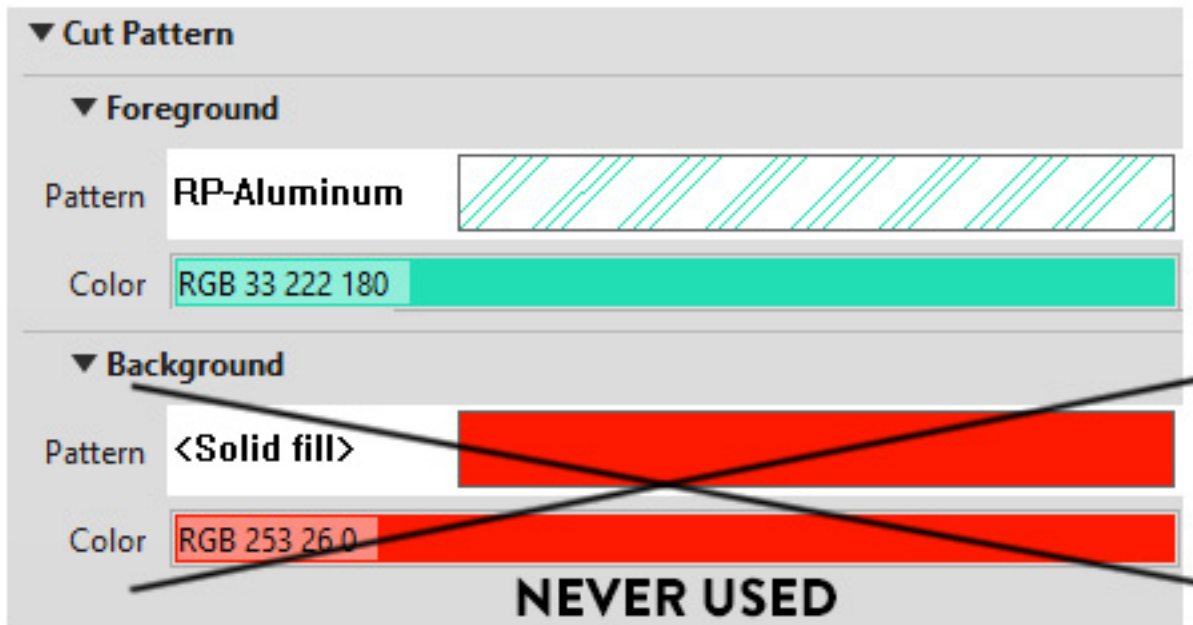
### PRIORITY #1: PHASES GRAPHICS OVERRIDES



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Then, here is the phase material override. The background pattern isn't used at all by Revit.



## PRIORITY #2: PHASES MATERIAL OVERRIDES

Here is the resulting wall. It uses background pattern from the graphics override and foreground pattern from the material override.





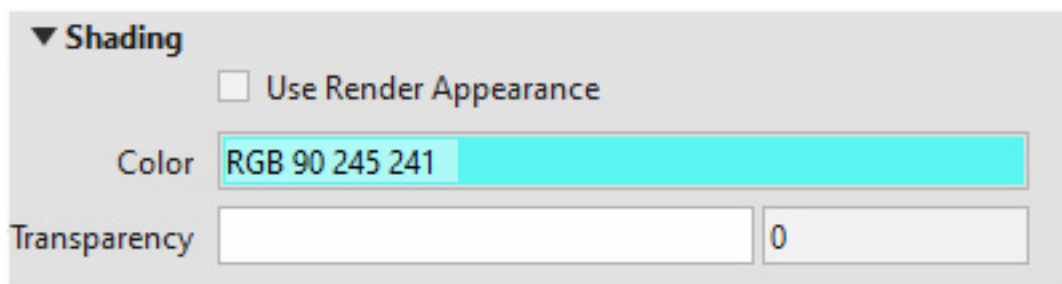
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## SHADING PROPERTY IN MATERIAL OVERRIDE

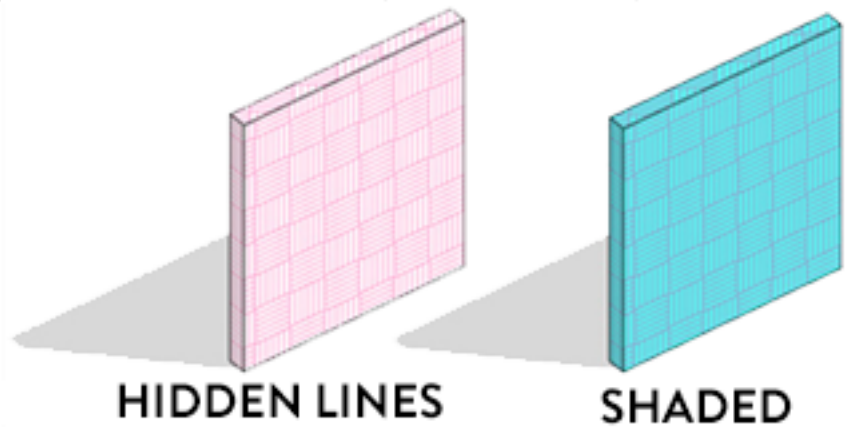
When you are using shaded or consistent colors view styles, the color set in the shading of the phase material override will be used. Like in this image:

### PHASE MATERIAL SHADING



### GRAPHIC PATTERN OVERRIDE

Phase Status	Projection/Surface	
	Lines	Patterns
Existing		





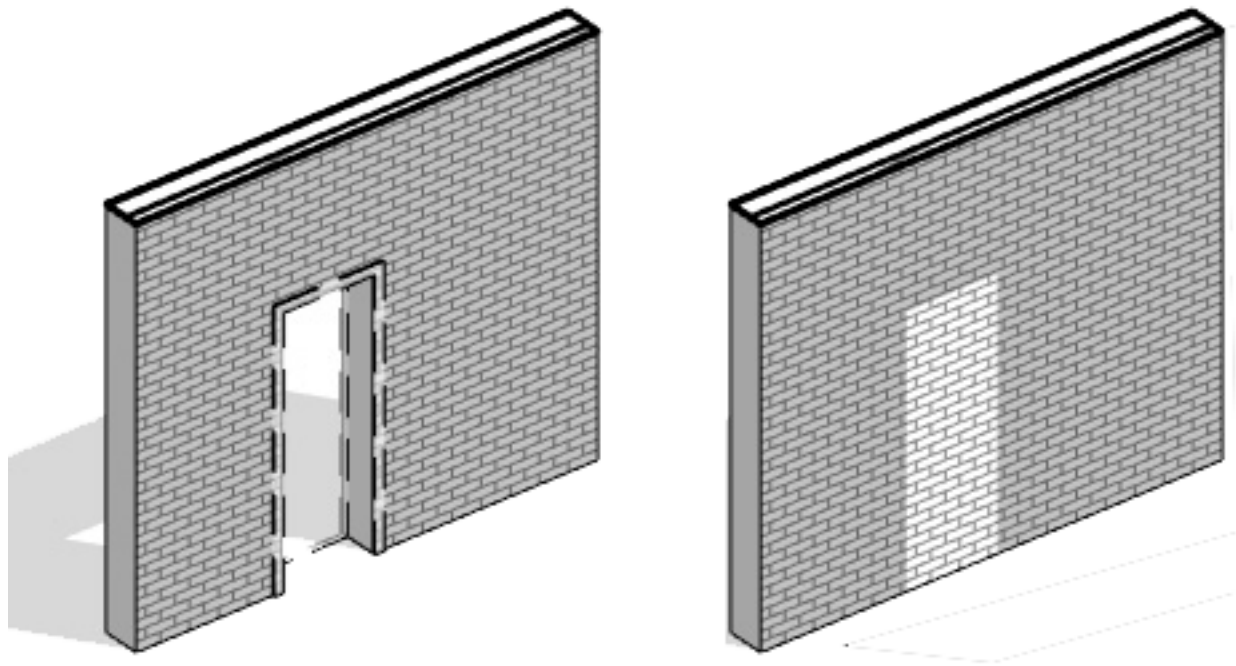
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## MANAGING INFILL ELEMENTS

If you demolish a door or window, Revit will automatically fill up the hole in the wall with an “infill” element. If you want to patch up the wall, that’s perfect. But sometimes, you want to replace it with another door or window! That’s when you might have problems.

You can see the automatic infill element on the “complete” view on the right:





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As you can see, these automatic infill elements don't have a phase. You can change the wall type, but you can't move it or modify the extents. A strange feature indeed!

Constraints	
Location Line	Wall Centerline
Base Extension Distance	0.0
Top Extension Distance	0.0
Related to Mass	<input type="checkbox"/>
Cross-Section	Vertical

**NO PHASING OPTIONS**

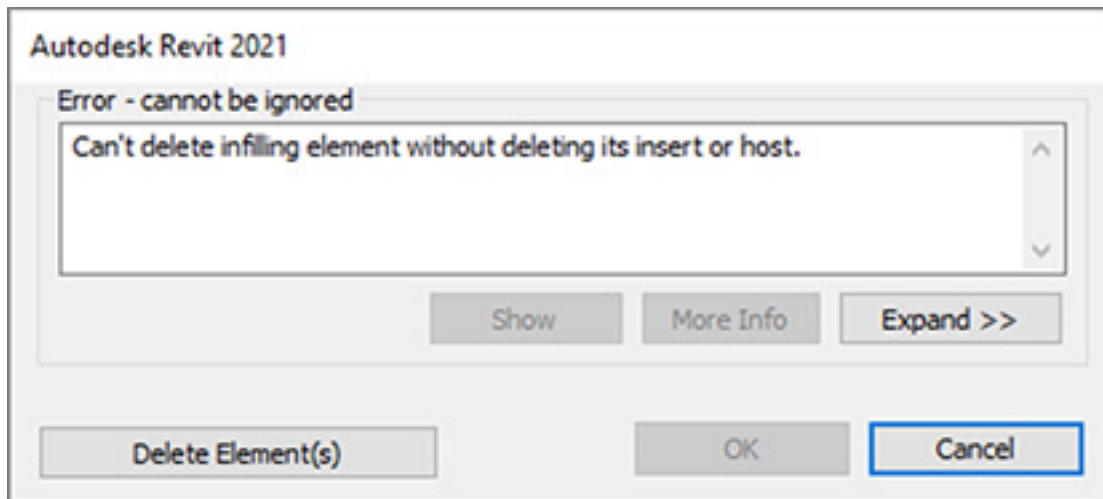


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## YOU CAN'T DELETE INFILL ELEMENTS

If you try to delete the infilling element, you will get this warning. If you proceed, the demolished door will be deleted! Be careful.



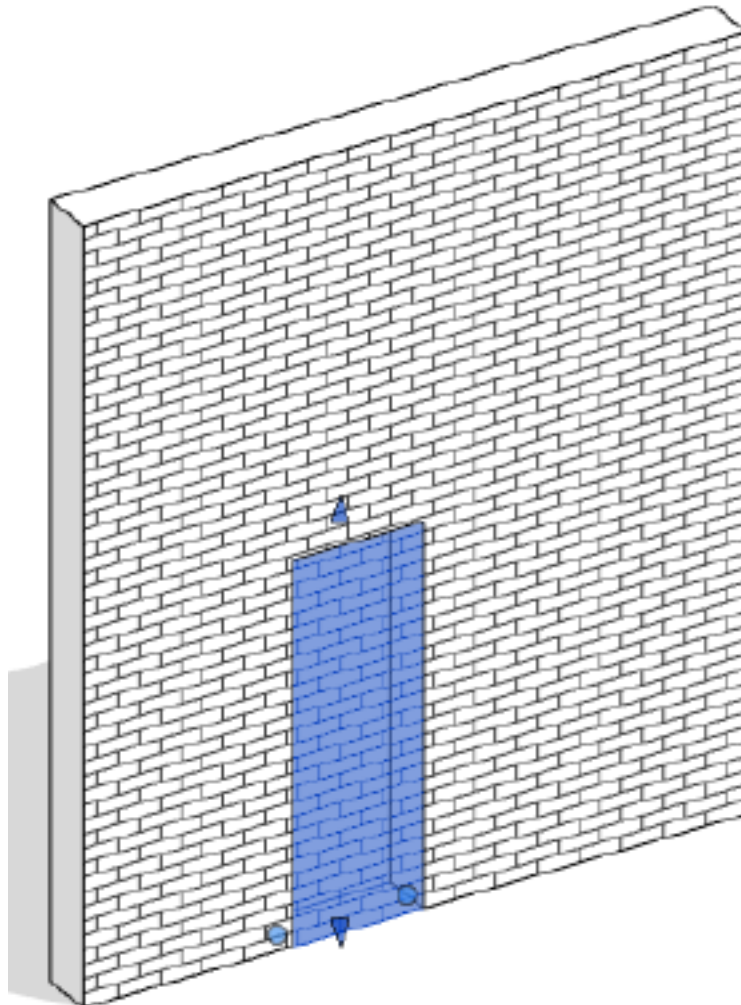


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## ALTERNATIVE: CREATE DEMOLISHED HOSTED WALLS

Sadly, there is no easy way to delete this automatic infill if you don't like it. But there is a helpful workaround: create a separate wall just where the door is located and set it to demolished.



**CREATE SEPARATE WALL AND  
DEMOLISH IT**

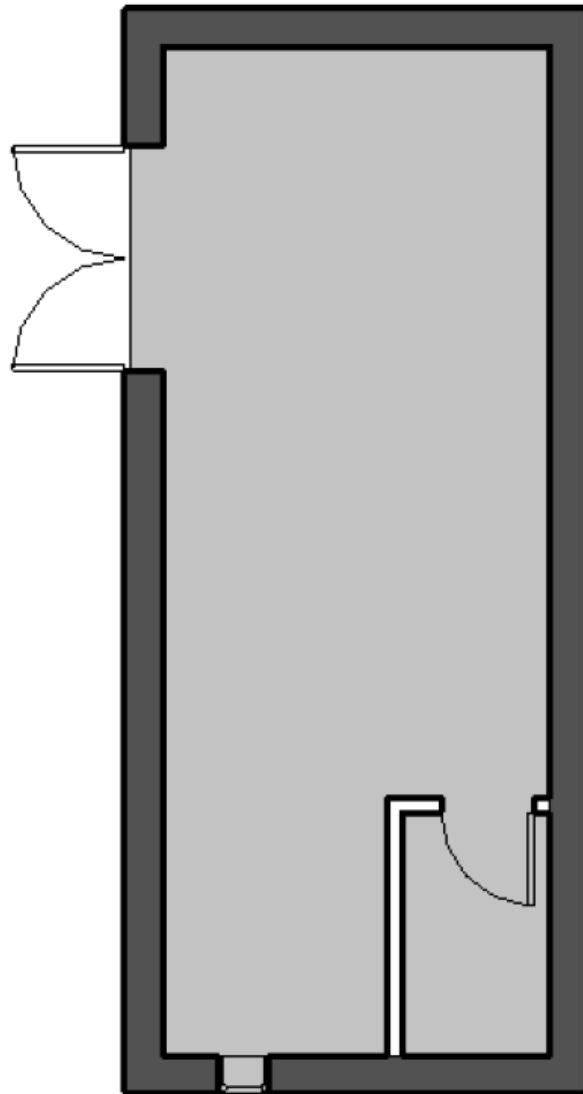


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## MANAGING FLOORS & CEILINGS PHASES

When using phases overrides, the graphics of some elements might be affected even if you don't want them to. For example, maybe you don't want the surface pattern of the existing floor to appear in grey, like below:







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## USING VIEW FILTERS

A quick fix is to create a view filter that includes all elements you don't want to be affected. For example, you could include all floors and all stairs. Then, you deactivate the visibility of the background pattern.

The view filters graphics overrides have priority over phases graphic overrides.

In the example below, all floors and stairs won't show any background pattern in the specific view. This way, the floor won't show up with a gray surface pattern like in the previous page.

Visibility/Graphic Overrides for Floor Plan: 02-LEVEL 1

Model Categories Annotation Categories Analytical Model Categories Imported Categories Filters

Name	Enable Filter	Visibility	Projection/Surface		
			Lines	Patterns	Transpare...
Floors and Stairs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Hidden	

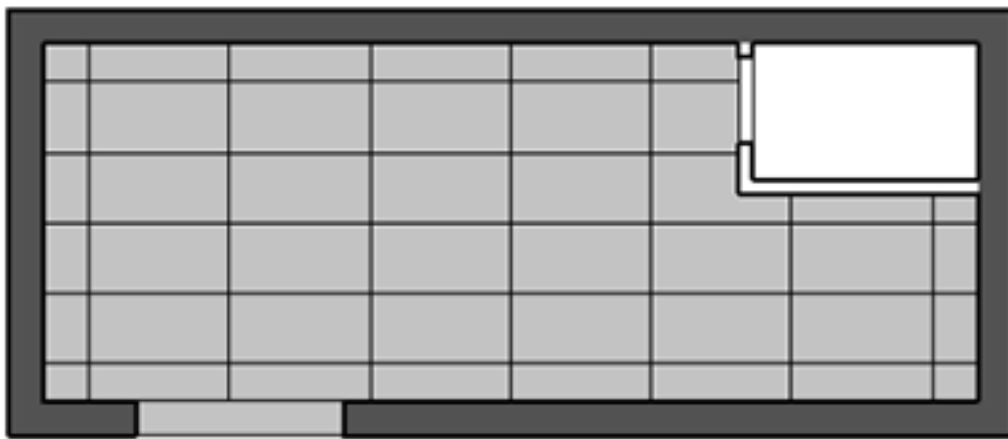


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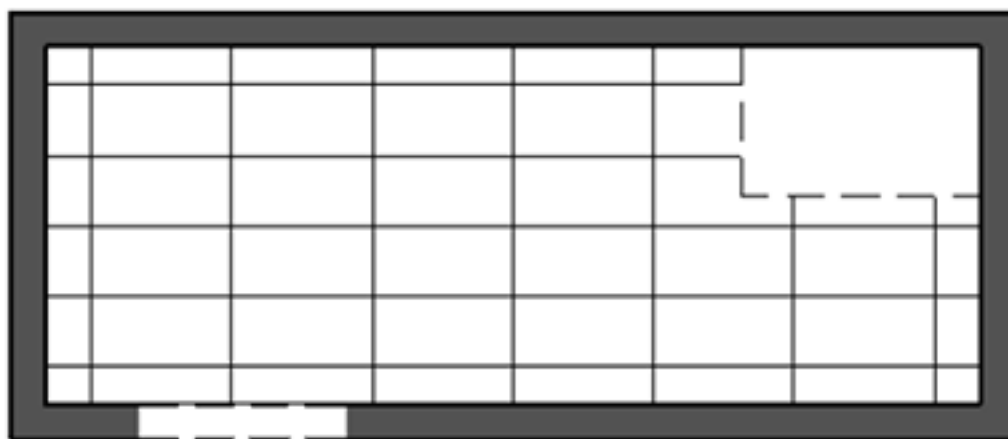
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## DEMOLISHED FLOOR & CEILINGS

Another issue you will face when demolishing ceilings or floor finishes is that the pattern isn't modified with dashed lines. For example, the demolished ceiling in the image below appears like a regular new ceiling, not like a demolished one. To show dashed lines, you'll have to create a new pattern specifically for demolition.



**EXISTING CEILING**



**DEMOLISHED CEILING (NO DASHED LINES)**



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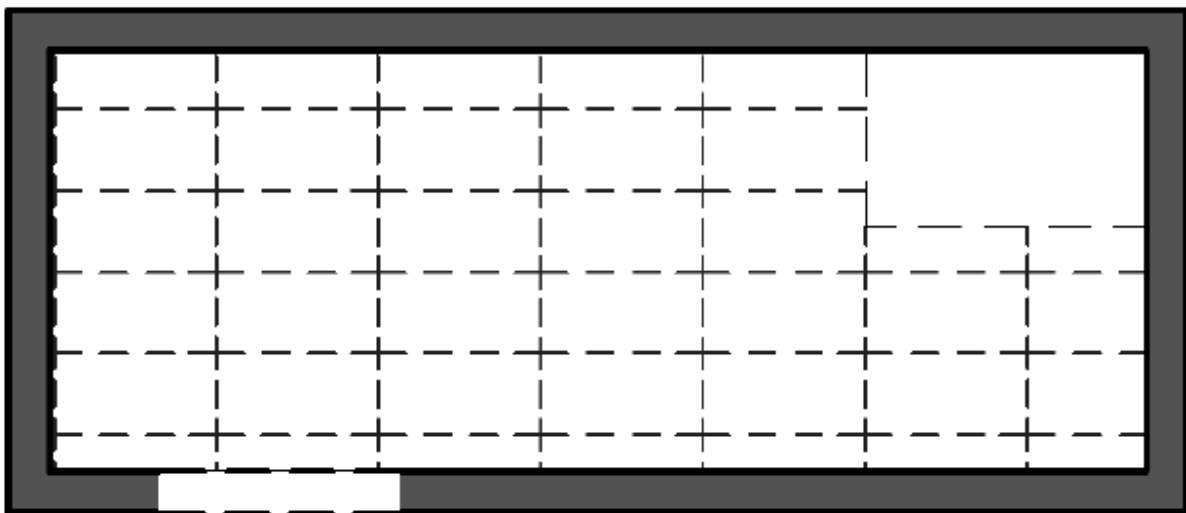
## CREATING A PATTERN

Creating a pattern used to be a tedious hassle, but the free PyRevit plugin allows you to create one quickly.

Use the complete tutorial on this URL:

<https://revitpure.com/blog/how-to-quickly-create-a-pattern-in-revit-using-pyrevit>

Here, we recreate the 2x4 ceiling pattern but with dashed lines. Important note: you'll have to create a different ceiling material and type for this pattern to properly show up.



You can use the same process for floor finishes.



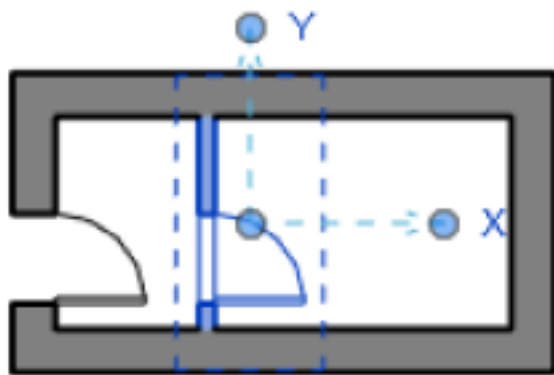
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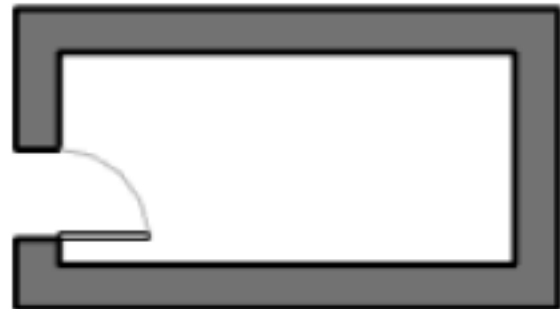
## GROUPS AND PHASES

In the image below, a group with demolished element is copy/pasted. The demolition information isn't copied; the walls appear in the "new" plan.

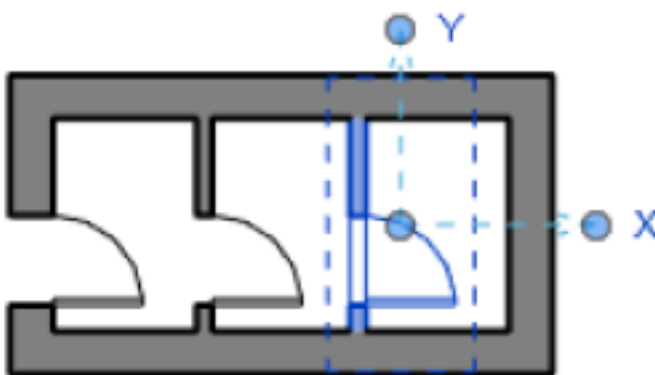
To keep things simple, everything in your group should be on the same phase.



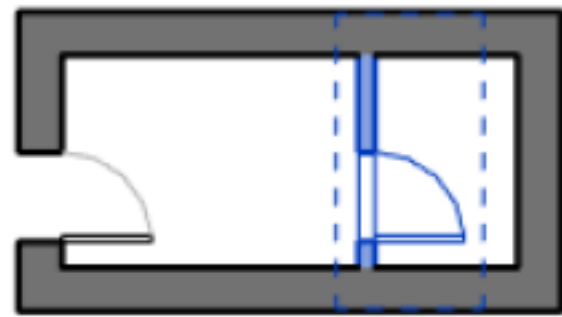
**EXISTING PLAN**  
**GROUP VISIBLE**



**NEW PLAN**  
**GROUP INVISIBLE**



**EXISTING PLAN**  
**GROUP VISIBLE**



**NEW PLAN**  
**GROUP VISIBLE**

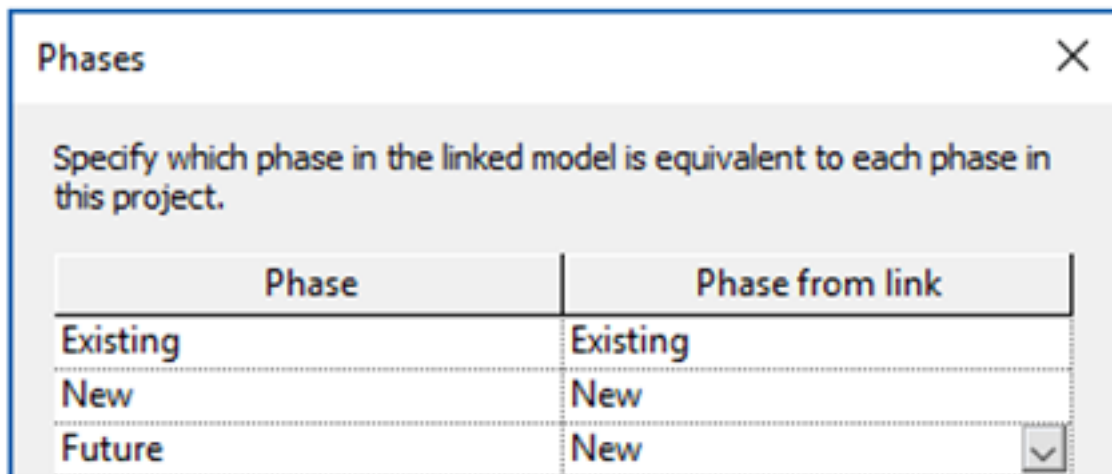
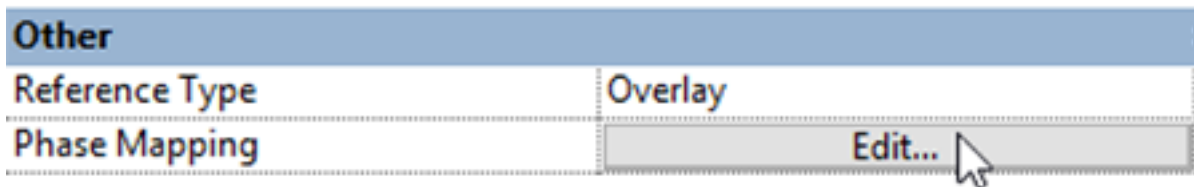


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## PHASE MAPPING WITH REVIT LINK

For phases to properly work between linked models, you have to map them together. In the example below, we go to the type properties of the Revit link. In the phase mapping menu, we make sure the phases match.



If you don't map the phases, you might have issues with the visibility of elements from the linked model.



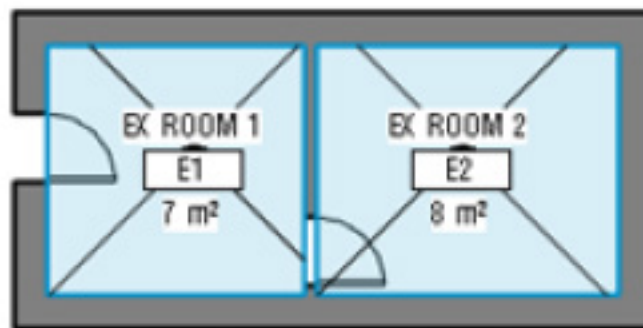
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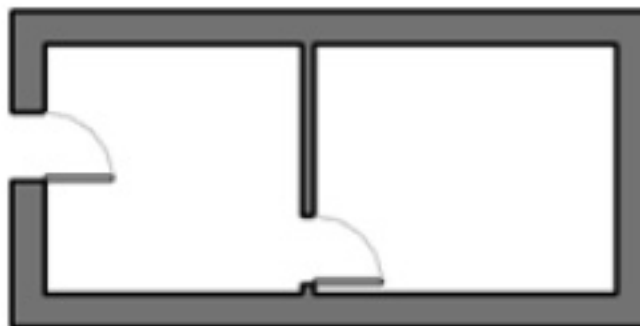
## ROOMS & PHASES

Rooms created in the existing phase will only be visible in “existing” views, regardless of the phase filter. Once a room is placed, the phase can’t be changed.

When creating a demolition plan, you can’t show room tags from existing rooms. You’ll have to use a workaround.



**PHASE: EXISTING  
ROOMS: VISIBLE**



**PHASE: NEW  
ROOMS ARE GONE :(**

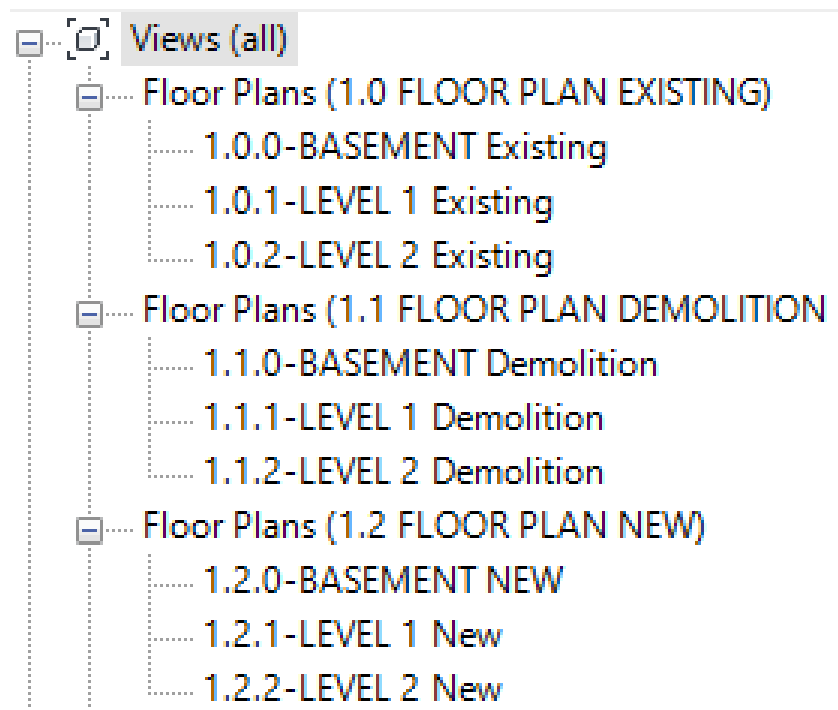


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## PROJECT BROWSER & PHASES

It's a good idea to create view types specific to phases in renovation projects, like in the image below.





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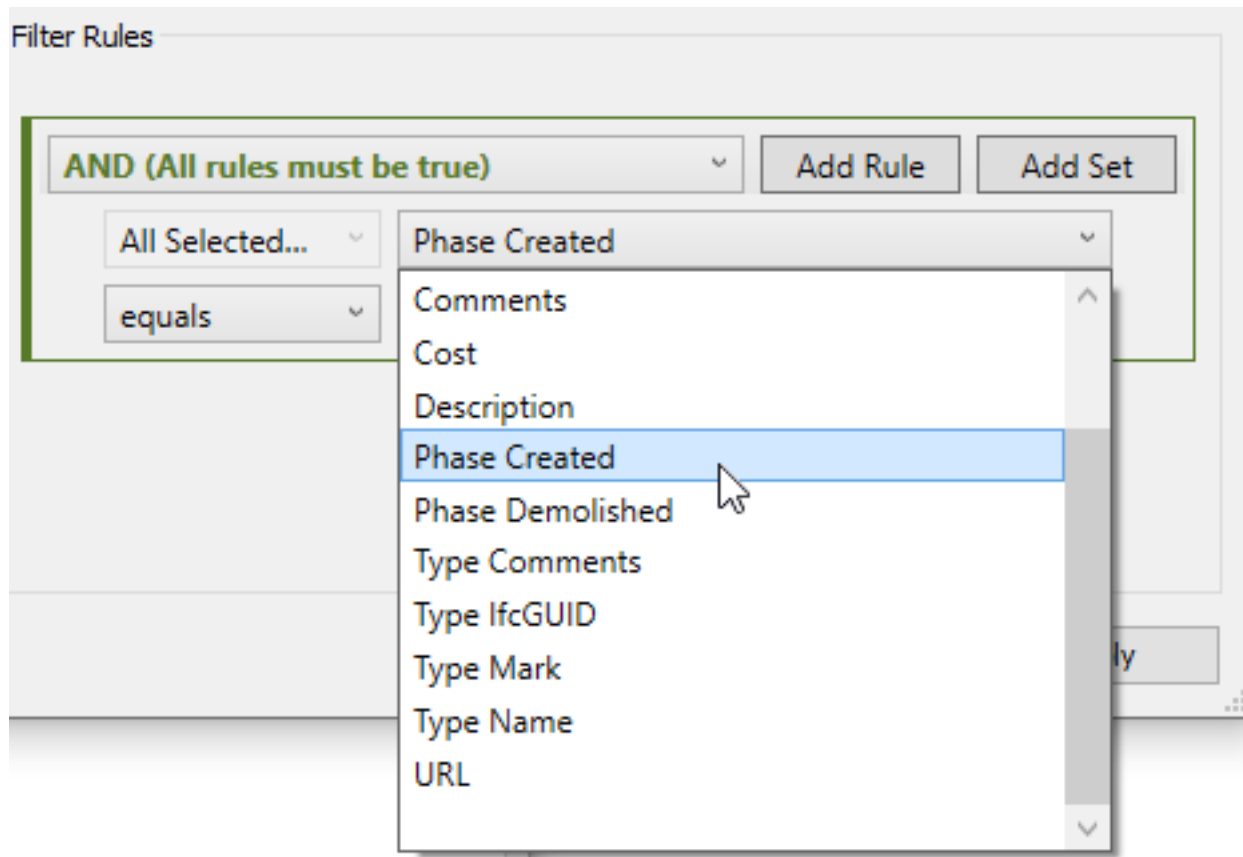
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## NEW IN REVIT 2022: PHASE PARAMETERS IN VIEW FILTERS

Revit 2022 is a huge update giving more tools to let users control phases. The biggest change affecting phases is with **view filters**.

The existing phasing graphic overrides affect all categories of elements, creating an overall effect that isn't helpful on certain kind of projects.

With this update, you can now select **Phase Created** and **Phase Demolished** view filter rules.







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For a quick reminder, this is Revit graphic override menu. As you can see, you can't specify categories: the settings affect everything equally.

## PHASES GRAPHIC OVERRIDE MENU

Phase Status	Projection/Surface		Cut	
	Lines	Patterns	Lines	Patterns
Existing				Hidden
Demolished				Hidden
New				
Temporary				

With view filters, you can get much more specific. For example, maybe you want **demolished ceilings** to appear in red and existing stairs to appear in green. We can set it up with the help of the new feature:

Name	Visibility	Projection/Surface		
		Lines	Patterns	Transparency
Interior	<input checked="" type="checkbox"/>	Override...	Override...	Override...
Demolished Ceilings	<input checked="" type="checkbox"/>			
Existing Stairs	<input checked="" type="checkbox"/>			

## USING VIEW FILTERS WITH PHASES



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Another limitation of Revit's graphic override menu is that you can't specify different effects for different phases. You are limited to Existing, New, Demolished, and Temporary.

That would not be an issue if you got only the Existing and New phases. But in projects where you have multiple phases, that can be an annoying limitation.

Project Phases		Phase Filters	Gra
	Name		
1	1935		
2	1976		
3	1995		
4	2021		

Let's say we have a historical project with a phase that represent years. You could set up view filters to have each phase with a different color. On the left, you can see our phases. Below, you can see the phase filters.

Name		
	Lines	Patterns
Interior	Override...	Override...
1935		
1976		
1995		
2021		

## VIEW FILTERS: DIFFERENT COLOR FOR EACH PHASE

This addition is a big deal and might make the Graphic Overrides useless for certain projects.



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## THANKS FOR READING!

As always, send your thoughts to [nick@revitpure.com](mailto:nick@revitpure.com). I read and answer all emails. Let me know what theme you want explored for the next edition.

## REVIT PURE PACKAGES



**BASICS**



**DESIGN**

Did you like the simple, efficient style of this pamphlet? That means you will love our learning packages! **BASICS** will help you learn all the essential tools of Revit. Check it out at: [revitpure.com/basics](https://revitpure.com/basics). **DESIGN** will teach you how to create beautiful presentation documents using Revit. Check it out at [revitpure.com/design](https://revitpure.com/design).

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