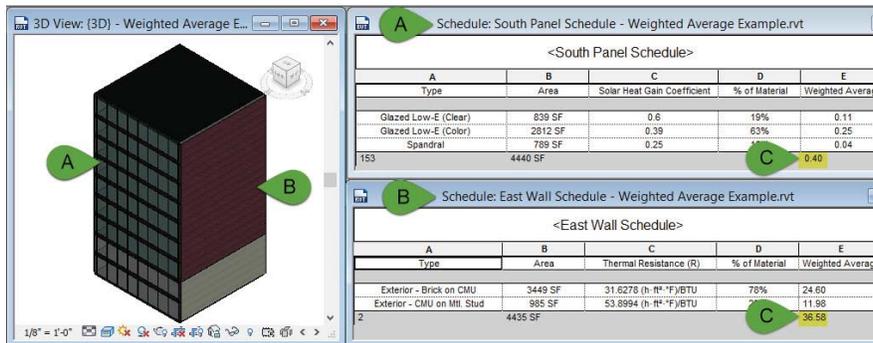


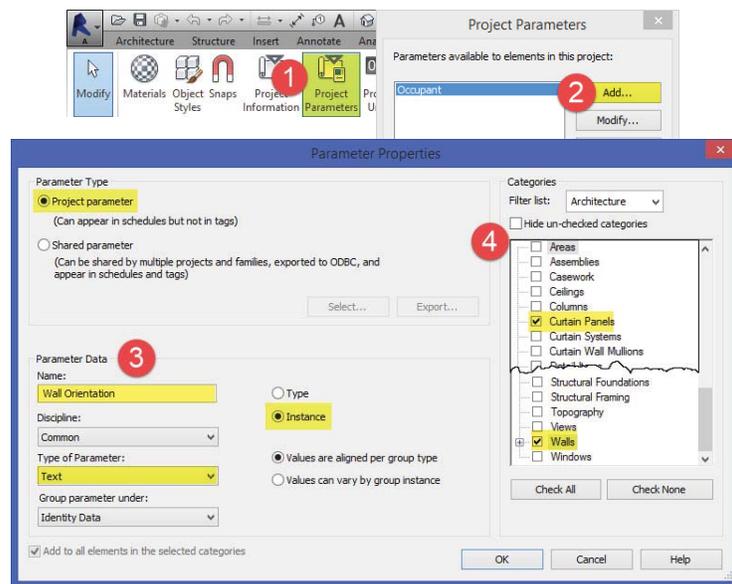
# Weighted Averages with Revit Schedules

We can use Revit's scheduling capabilities to determine a walls weighted average for R/U value or SHGC. In the following example we will look at a building that has three different types of curtain wall panels (A), all with varying SHGC, and a stacked wall (B) with varying R values. The finished schedule will show are weighted average (C).

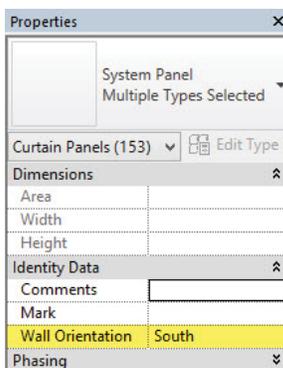


## 1. Create Orientation Parameter

Go to the Manage tab, select Project Parameters (1), Add...(2), and enter a name, for this example we are calling the new parameter 'Wall Orientation'. Make sure to change the Type of Parameter to 'Text' and that it is an 'Instance' parameter (3). Check both 'Curtain Panels' and 'Walls' (4). You can group this new parameter wherever you chose, for this example we are placing it in Identity Data.



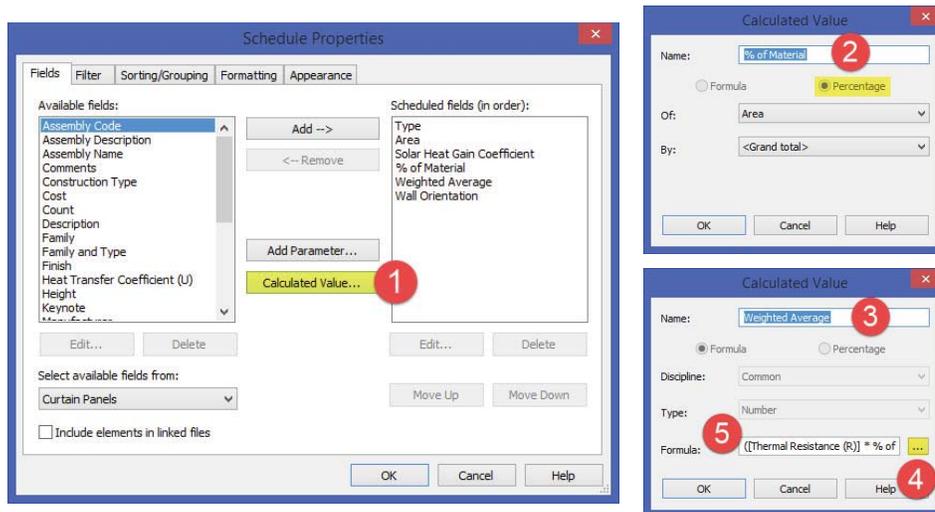
## 2. Label Walls



Once you have created the wall orientation parameter, you can now assign an orientation to each facade's curtain panels or walls. Select all the curtain panels (or walls) that make up one facade, in this example we are selecting all the panels on the south facade. In the 'Properties' window, enter 'South' for wall orientation. Repeat this process for the east, west and north facades.

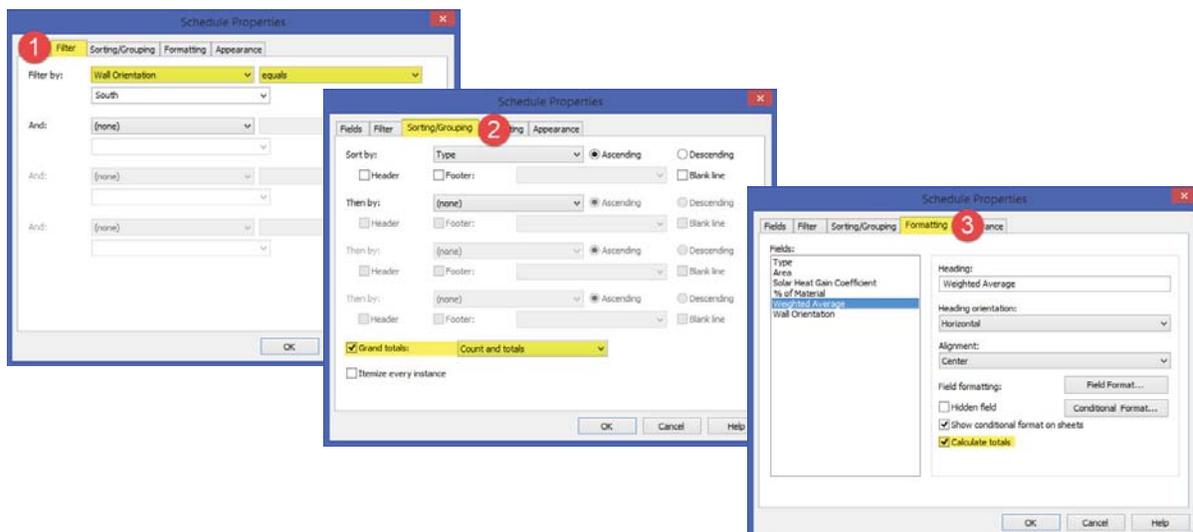
## 4. Create Calculated Values Parameters

Create a new curtain panel or wall schedule and include the following parameters: Type, Area, SHGC (or Thermal Resistance (R)), & Wall Orientation. In the next step, we will use the wall orientation parameter to filter by facade orientation. Next create two Calculated Value parameters (1). Name the new parameter ‘% of Material’, and select the Percentage dial (2). Create a second calculated value named ‘Weighted Average’ (3), make this parameter a Formula. Click the ‘...’ (4) button to add existing parameters to the formula. Select either SHGC or R Value first, then enter a multiple sign (\*) then click the ‘...’ button again to select the ‘% of Material’ parameter. Your formula should now show in the box (5). If Revit gives an error of ‘Inconsistent units’ place the formula in parenthesis and divide by one. Ex.  $(Solar\ Heat\ Gain\ Coefficient * \%\ of\ Material) / 1$



## 5. Format the Schedule

First, add a filter which filters by ‘Wall Orientation’, set the value to ‘Equals’ and then pick the facade you are creating the schedule for; in this example our schedule is for the south facade(1). Next, move to the Sorting/ Grouping tab(2) and check the box for ‘Grand totals’. Click the formatting tab (3) and select the ‘Weighted Average’ parameter from the list. Check the box to ‘Calculate totals’.



Once you have completed one schedule, you can quickly duplicate the schedule for the remaining three sides. Just change the filter to switch which facade your schedule is calculating.