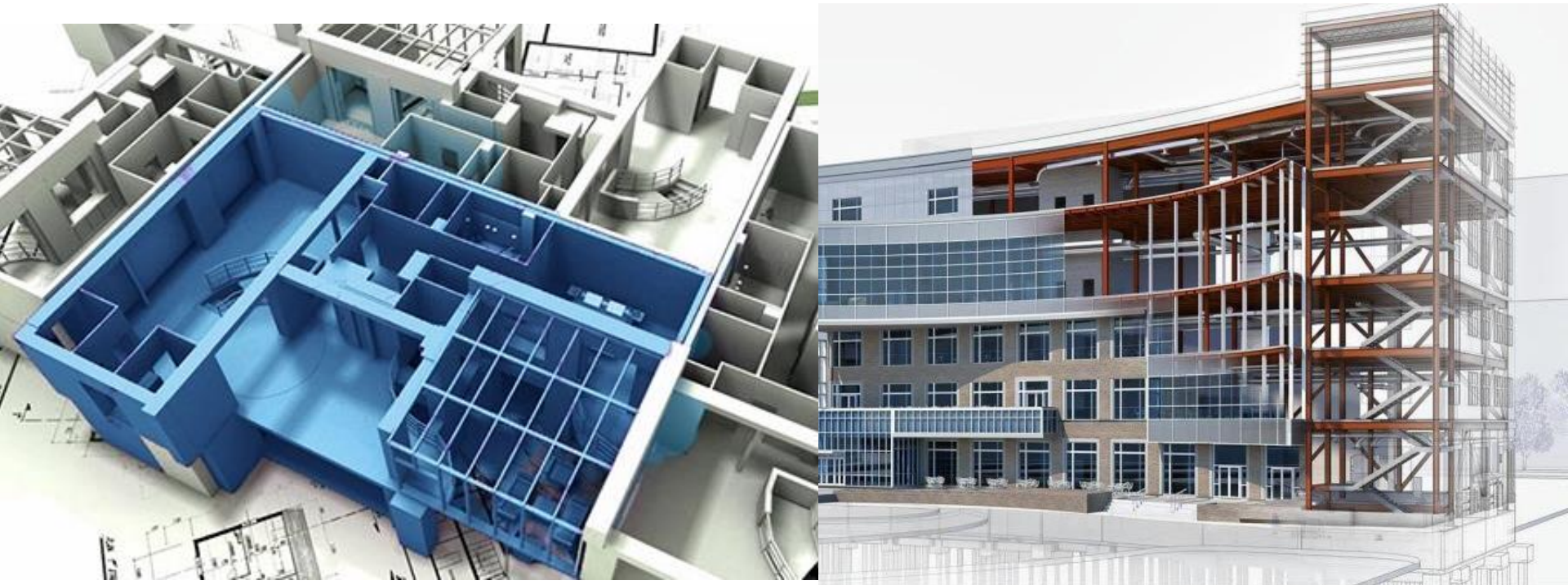


Revit BIM

How-to Guide



Εφαρμογές Building Information Modeling (BIM) στη διαχείριση έργων

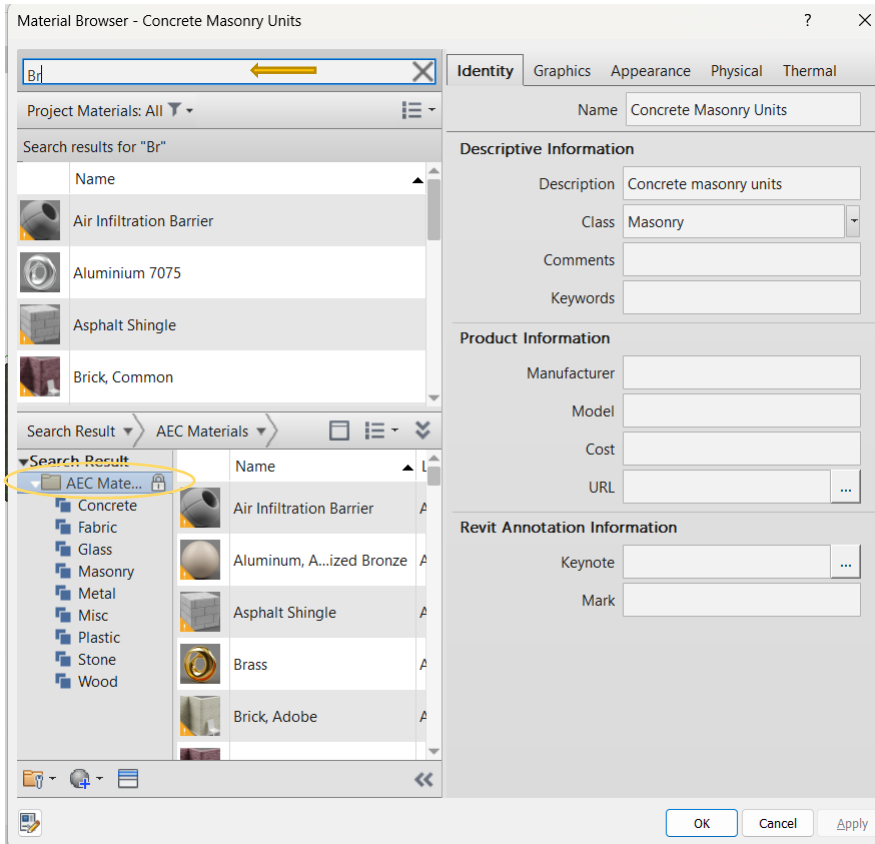
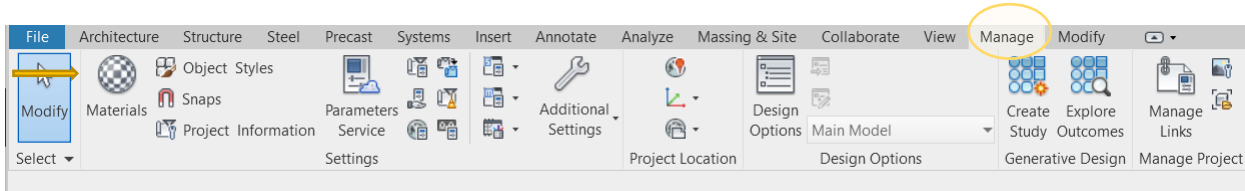
Δρ. Δήμητρα Χονδρογιάννη

Τμήμα Πολιτικών Μηχανικών, Πανεπιστήμιο Πατρών
Πάτρα, 2023

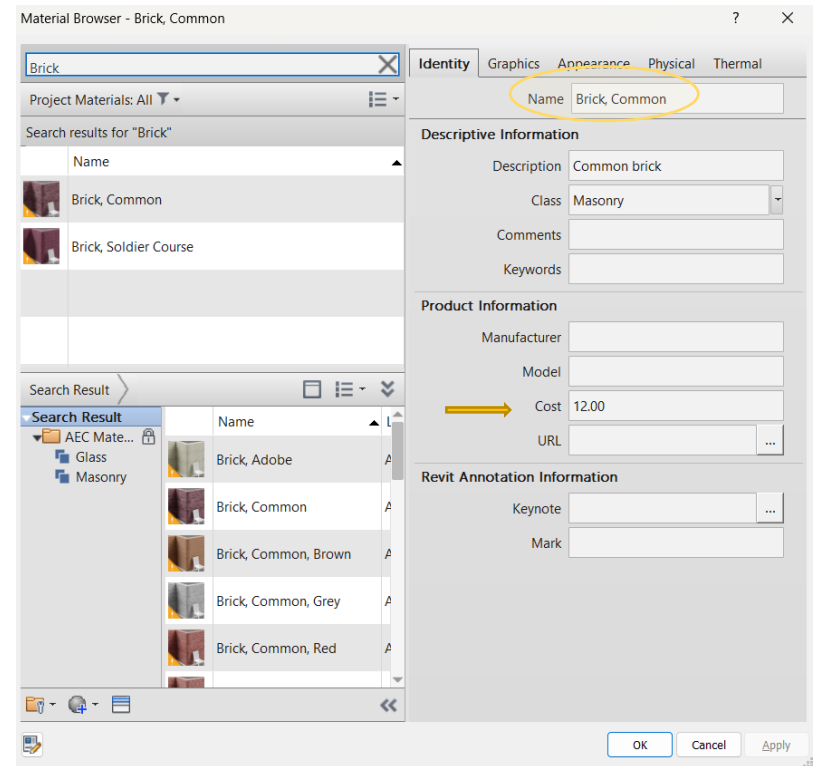
Revit Materials

Επεξεργασία και Δημιουργία Υλικών

Manage > Materials > Αναζήτηση υλικού στο Library



Επιλογή υλικού π.χ. Brick common > Identity > Προσθήκη περιγραφής, κόστους κ.α.



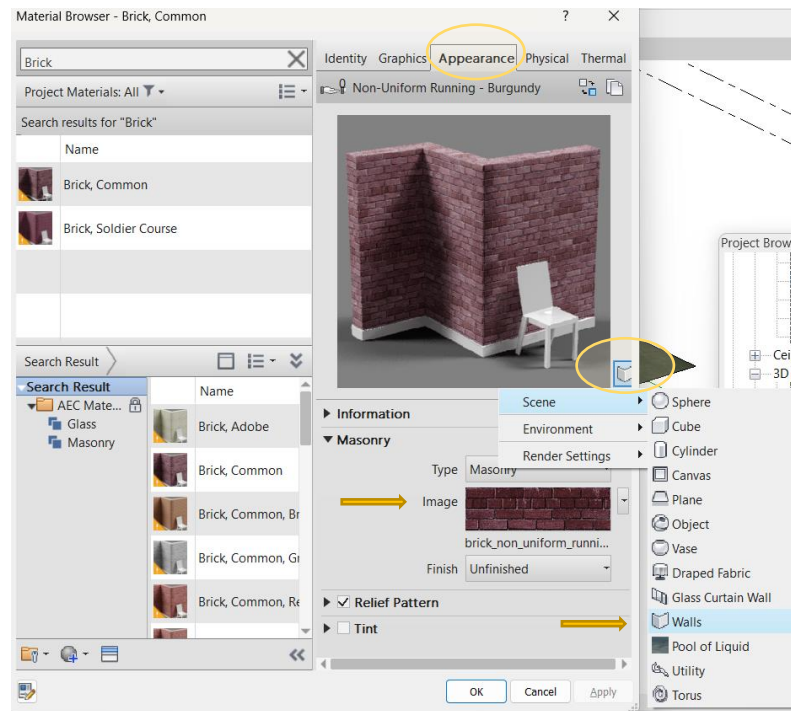
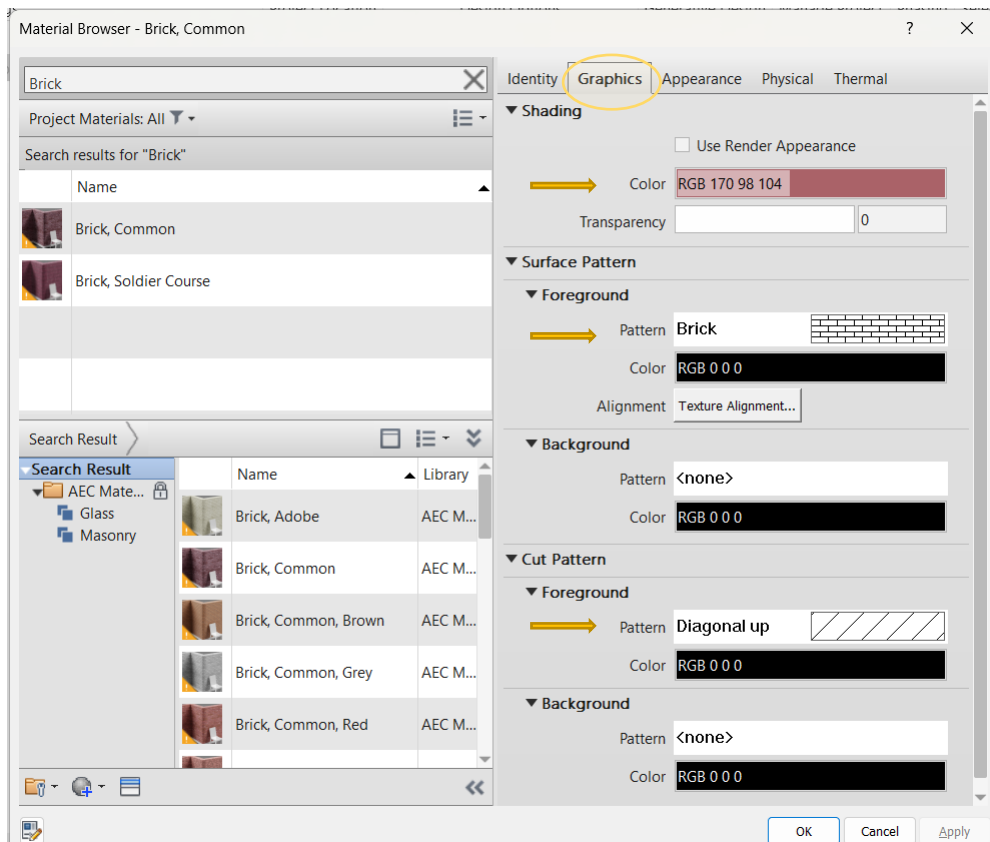
Revit Materials

Επεξεργασία και Δημιουργία Υλικών

Καρτέλα **Graphics** > Προσθήκη **χρώματος, μοτίβου όψης, μοτίβου τομής κ.α.**

Καρτέλα **Appearance** > Προσθήκη **εικόνας υλικού** (bitmap, jpg, png)

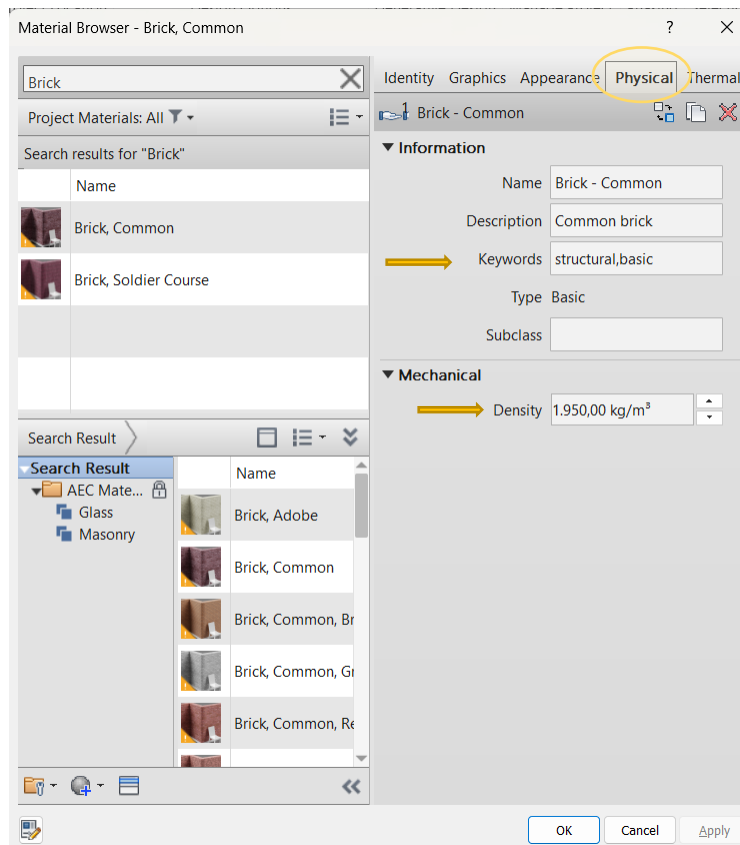
Για διαφορετικά thumbnails: **Scene > Wall, Cube** κ.α.



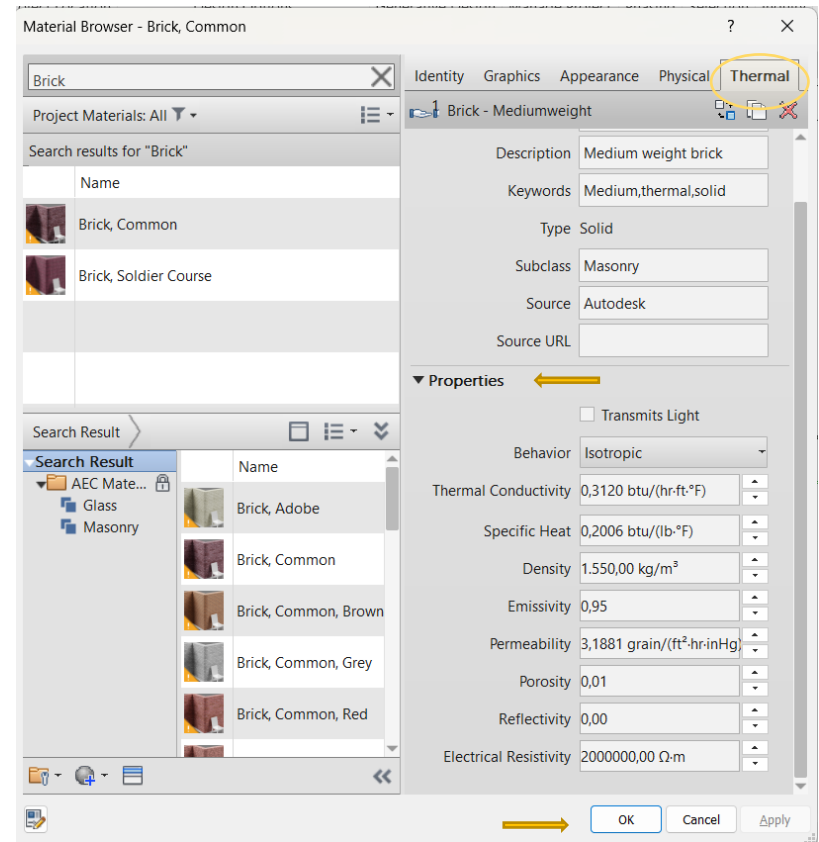
Revit Materials

Επεξεργασία και Δημιουργία Υλικών

Καρτέλα **Physical** > Προσθήκη **πυκνότητας**



Καρτέλα **Thermal** > Προσθήκη **ιδιοτήτων & χαρακτηριστικών** για θερμική ανάλυση



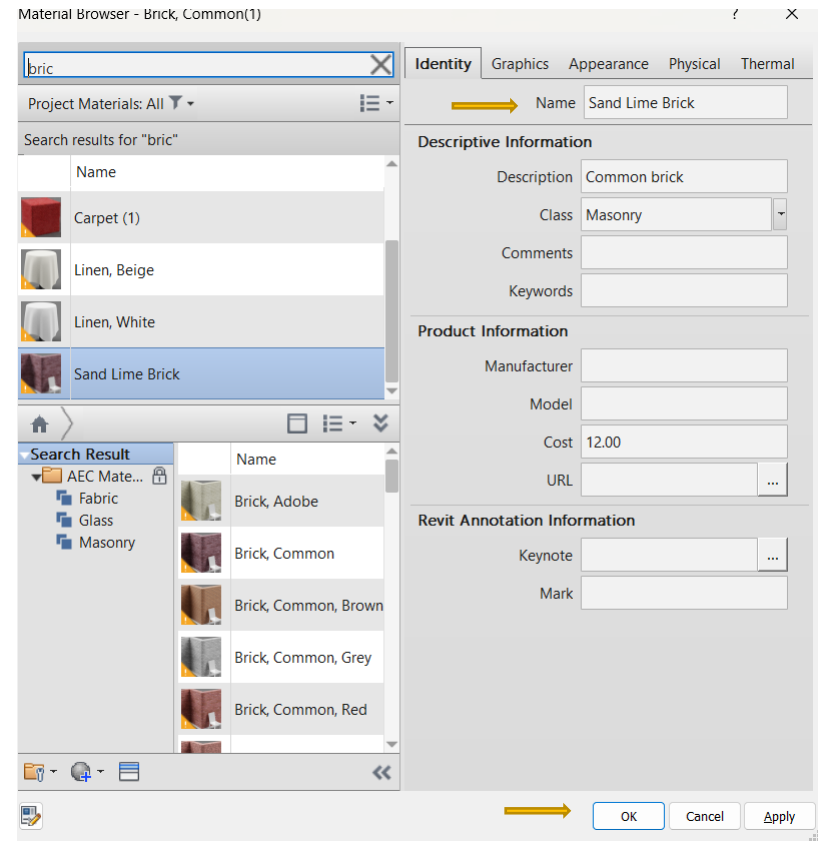
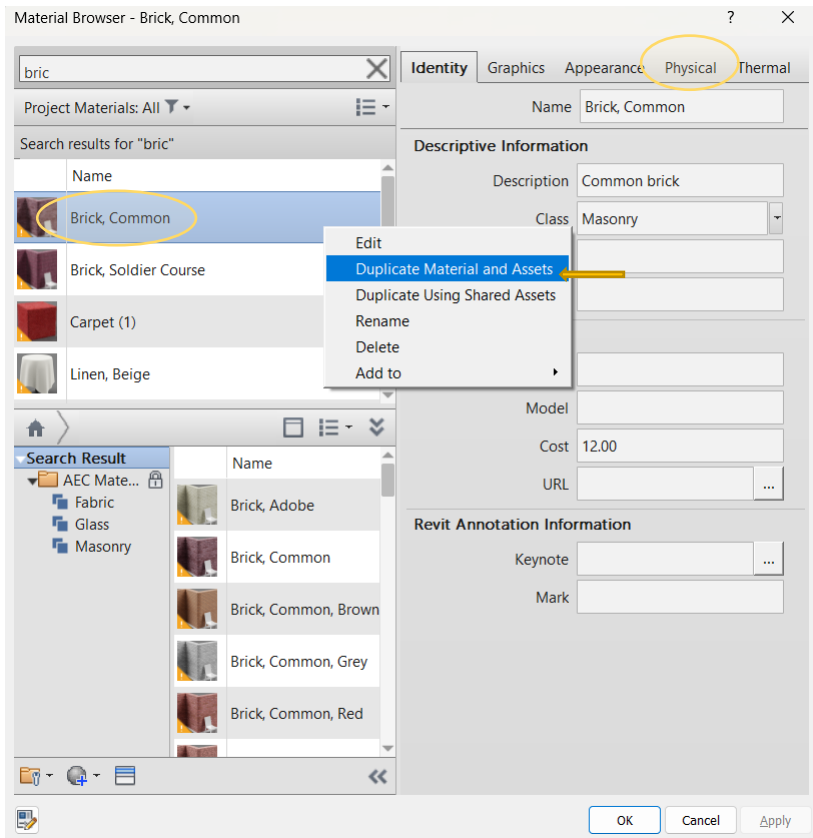
Revit Materials

Επεξεργασία και Δημιουργία Υλικών

Για νέο υλικό που ανήκει σε κατηγορία υλικού της βιβλιοθήκης:

Δεξί κλικ στο υπάρχον υλικό > **Duplicate Material and Assets**

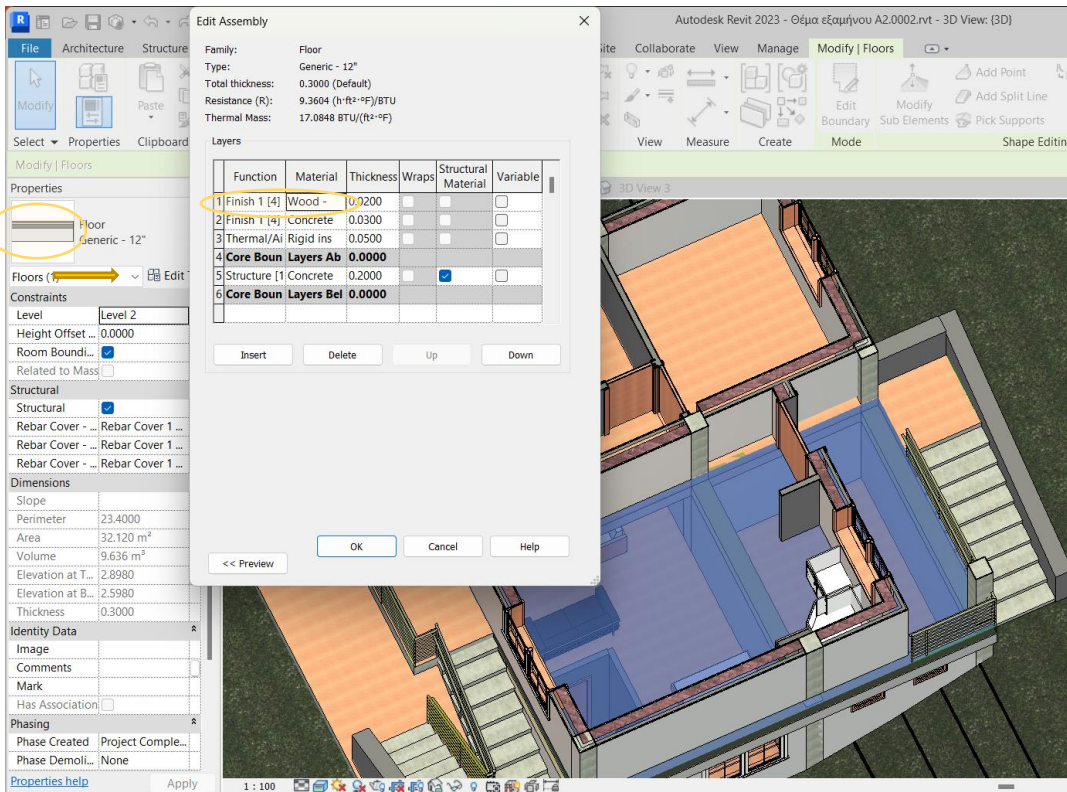
Προσθήκη **ονόματος και ιδιοτήτων του νέου υλικού** στις καρτέλες Identity, Graphics, Appearance, Physical, Thermal > ok



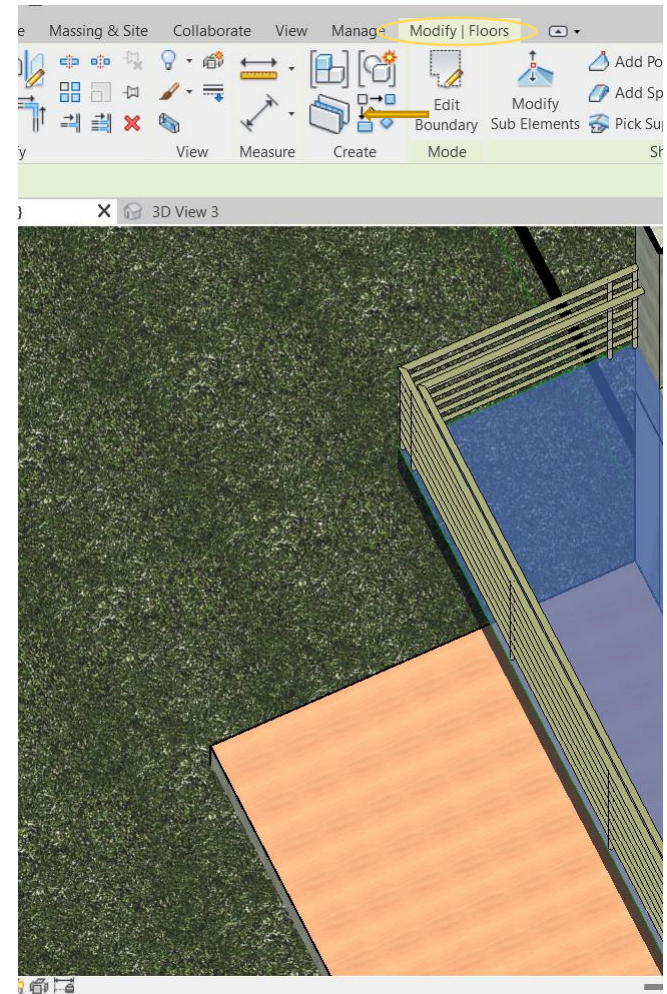
Revit Floor Finishes

Προσθήκη διαφορετικών δαπέδων

Έχουμε δημιουργήσει ένα τύπο Floor με Wood Finish (ξύλινο δάπεδο)



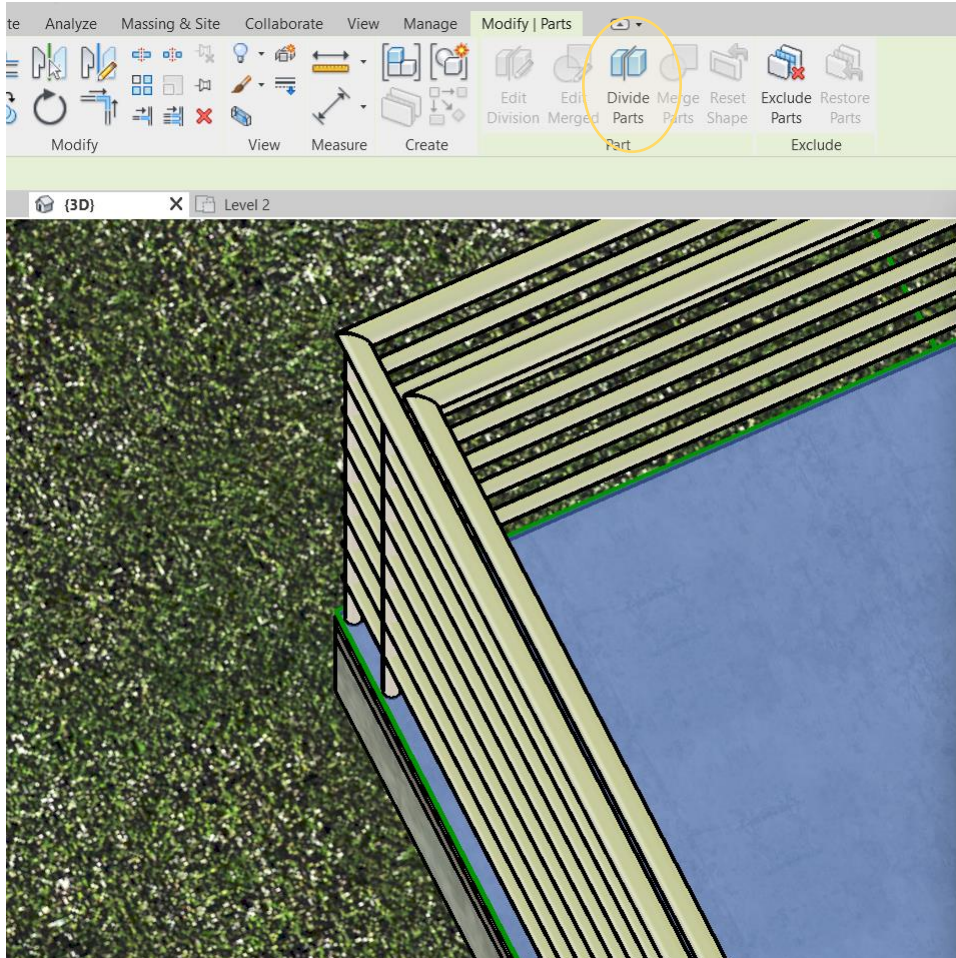
Select Floor > Modify > Create parts



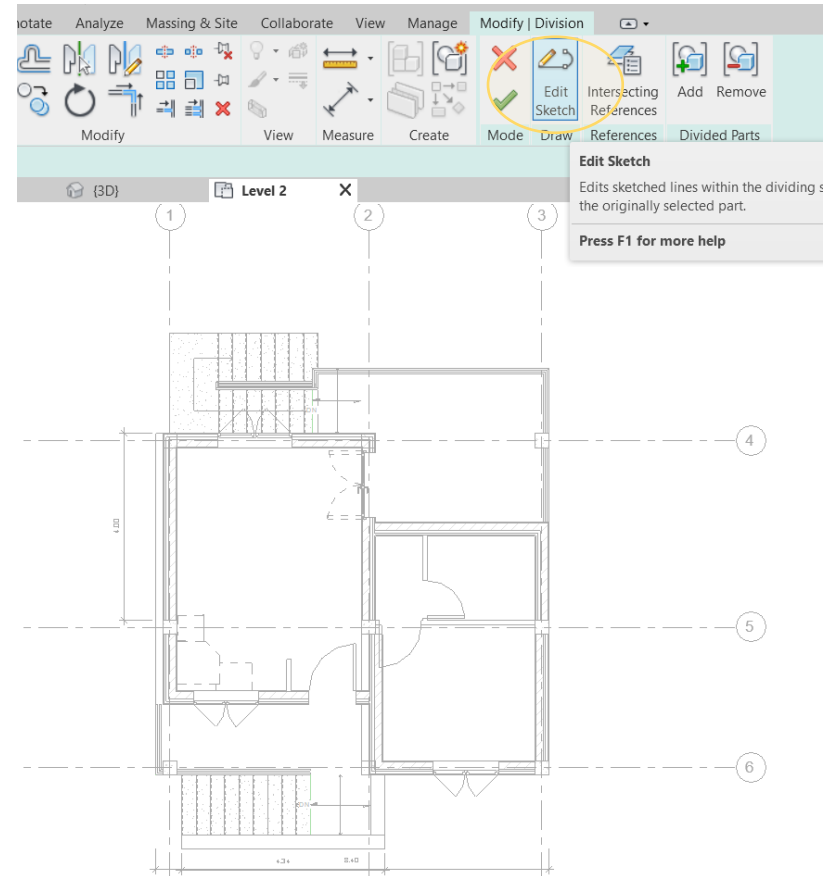
Revit Floor Finishes

Προσθήκη διαφορετικών δαπέδων

Select Floor Finish > Divide Parts



Στο αντίστοιχο **Floor Plan > Edit Sketch**

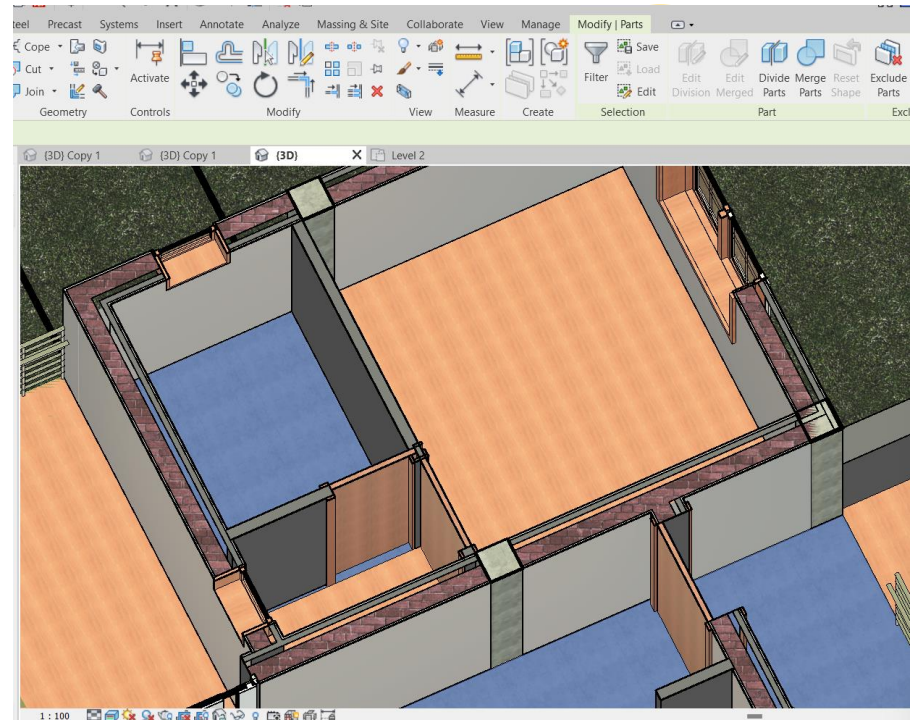
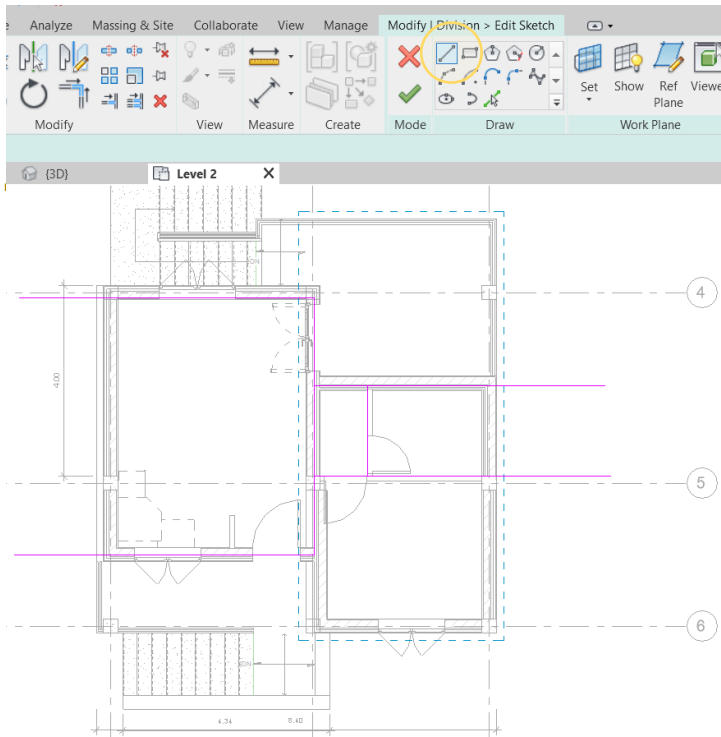


Revit Floor Finishes

Προσθήκη διαφορετικών δαπέδων

Draw diving lines για να οριστεί κάθε δωμάτιο με διαφορετικό δάπεδο

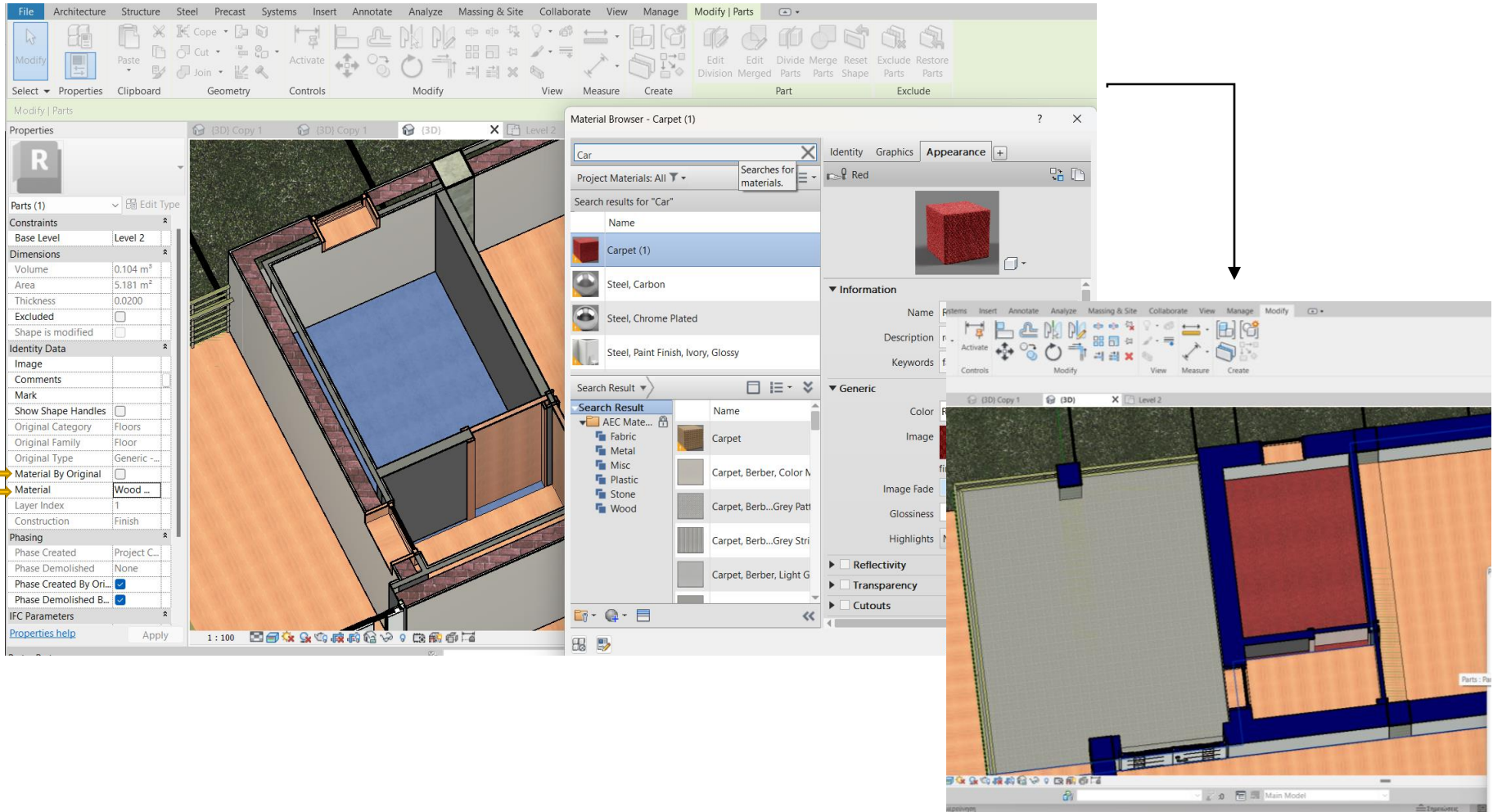
Στο **3D View** μπορούμε να επιλέξουμε κάθε διαχωρισμένο **floor finish**



Revit Floor Finishes

Προσθήκη διαφορετικών δαπέδων

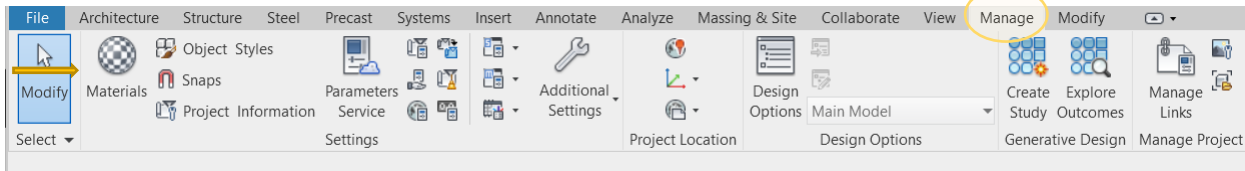
Στο **Properties** > Uncheck **Material by origin** > **Material** για επιλογή άλλου υλικού



Revit Paint

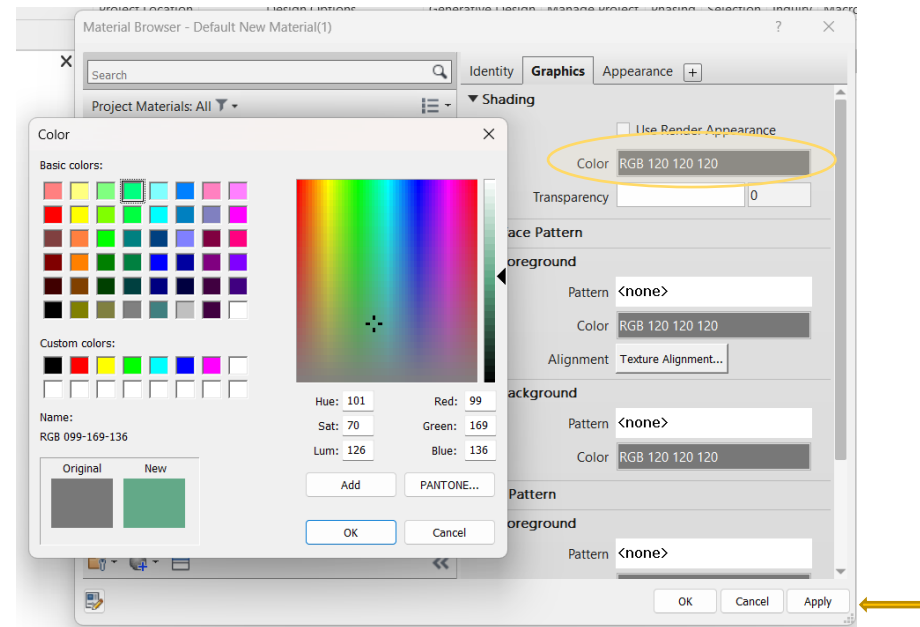
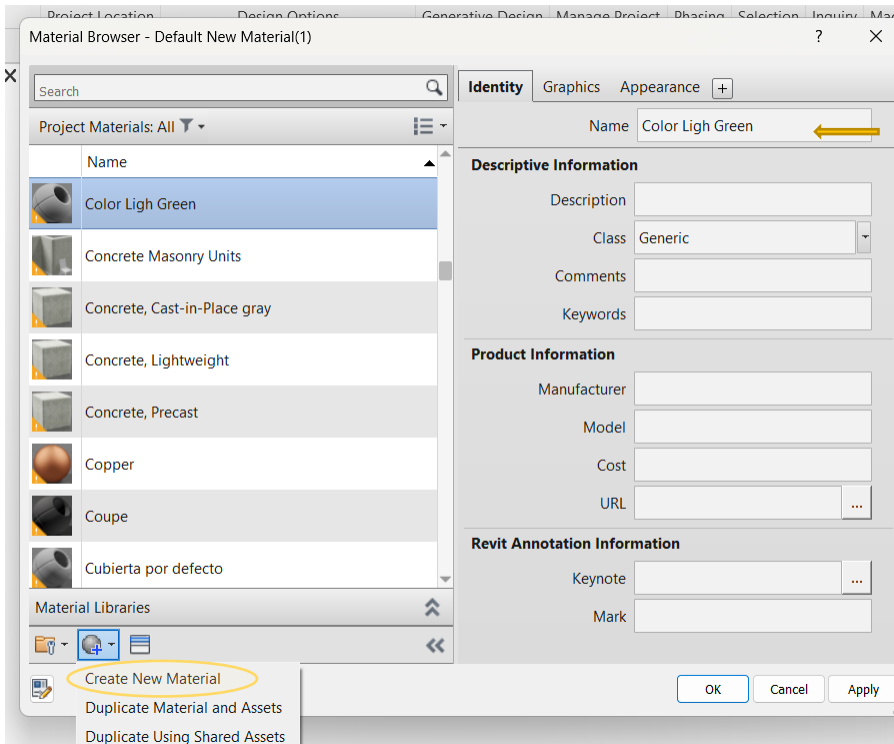
Χρωματισμός επιφανειών - τοίχων

Manage > Materials > Create New material



↓ Προσθήκη στοιχείων στην καρτέλα Identity π.χ. Name

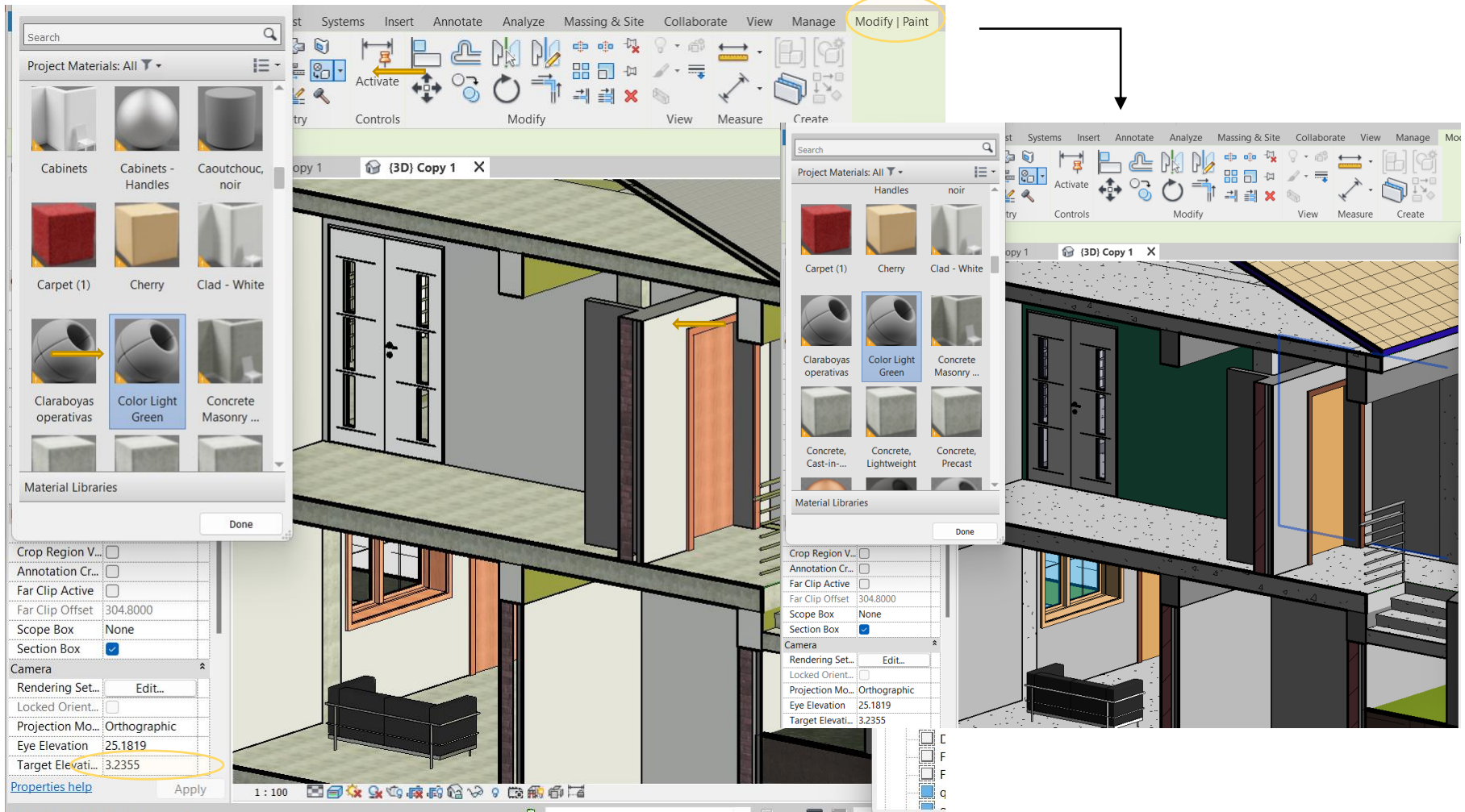
Επιλογή χρώματος στην καρτέλα Graphics > Apply > OK



Revit Paint

Χρωματισμός επιφανειών - τοίχων

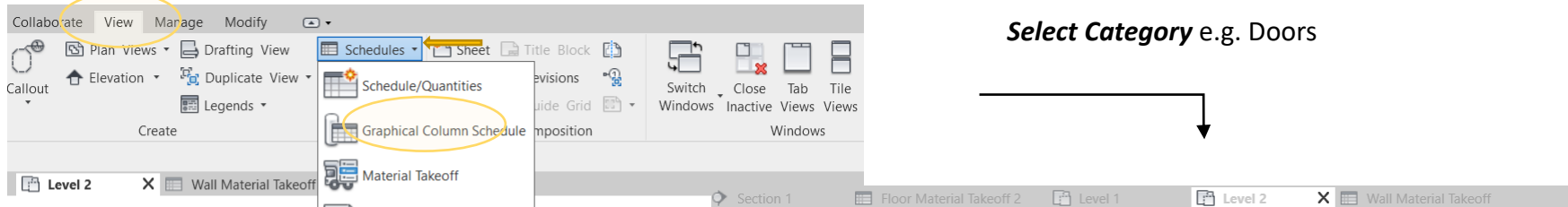
Modify > Paint > Select material > Select την επιφάνεια



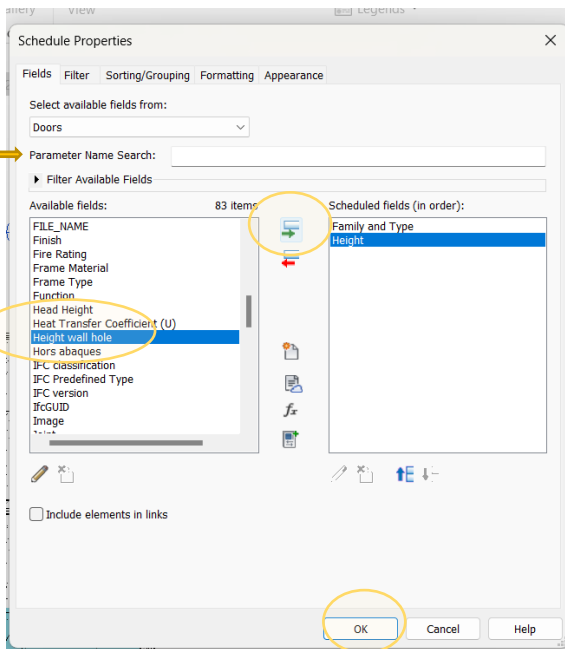
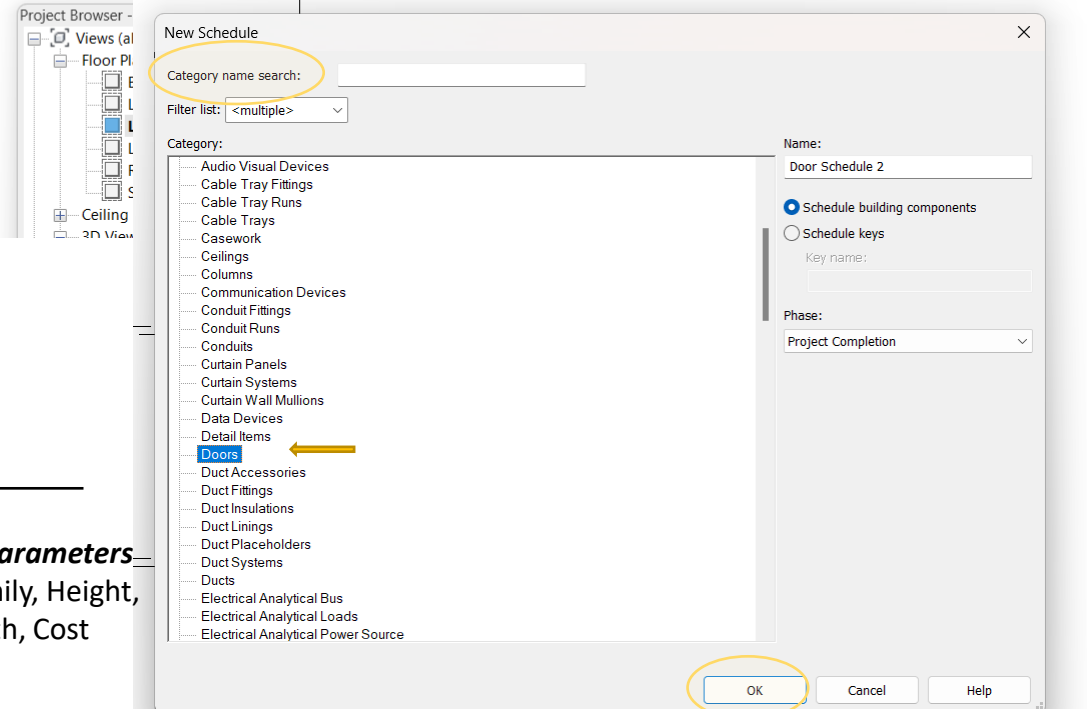
Revit Schedule

Δημιουργία προγραμμάτων Schedule

View > Schedule > Schedule/Quantities



Select Category e.g. Doors



Select Parameters
e.g. Family, Height,
Width, Cost

Revit Schedule

Δημιουργία προγραμμάτων Schedule

Δημιουργείται το αντίστοιχο **Schedule** στο **Project Browser**

The screenshot displays the Revit interface during the creation of a schedule. The ribbon is set to 'Modify Schedule/Quantities'. The 'Properties' panel on the left shows the schedule's configuration, including its name 'Door Schedule 2' and its dependency. The main area shows a table with columns for 'Family and Type', 'Height', and 'Width'. The 'Project Browser' on the right shows the project hierarchy, with 'Door Schedule 2' highlighted under the 'Schedules/Quantities (all)' category.

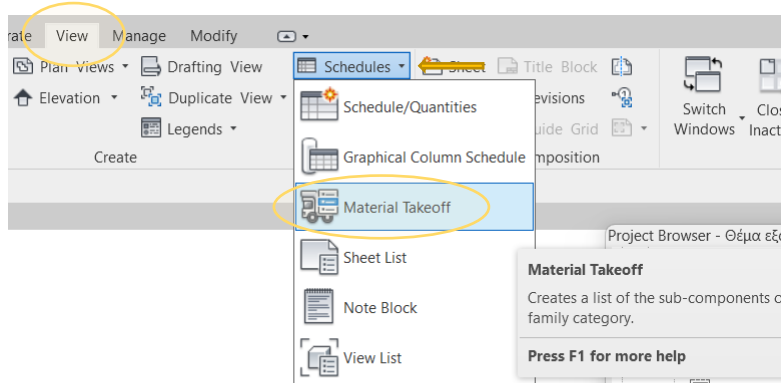
<Door Schedule 2>		
A	B	C
Family and Type	Height	Width
Single-Flush: 2.20*	2.20	1.00
Single-Flush: 2.20*	2.20	1.00
Single-Flush: 0.80*	2.10	0.80
Single-Flush: 2.20*	2.20	1.00
Single-Flush: 0.80*	2.10	0.80
Single-Flush: 0.90*	2.15	0.90
Porte r. no deux	2.20	1.40

Revit Schedule

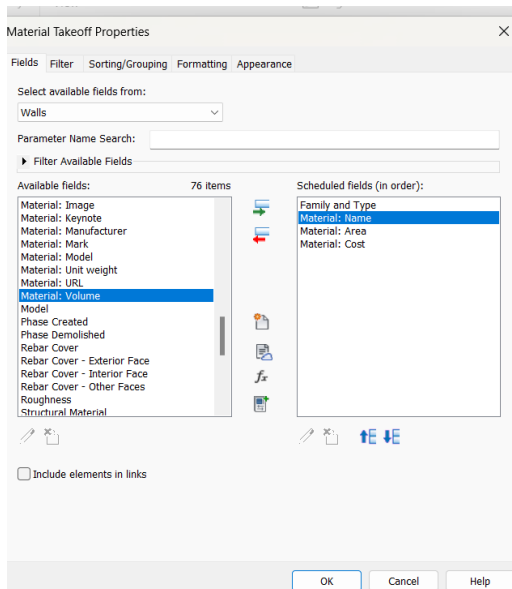
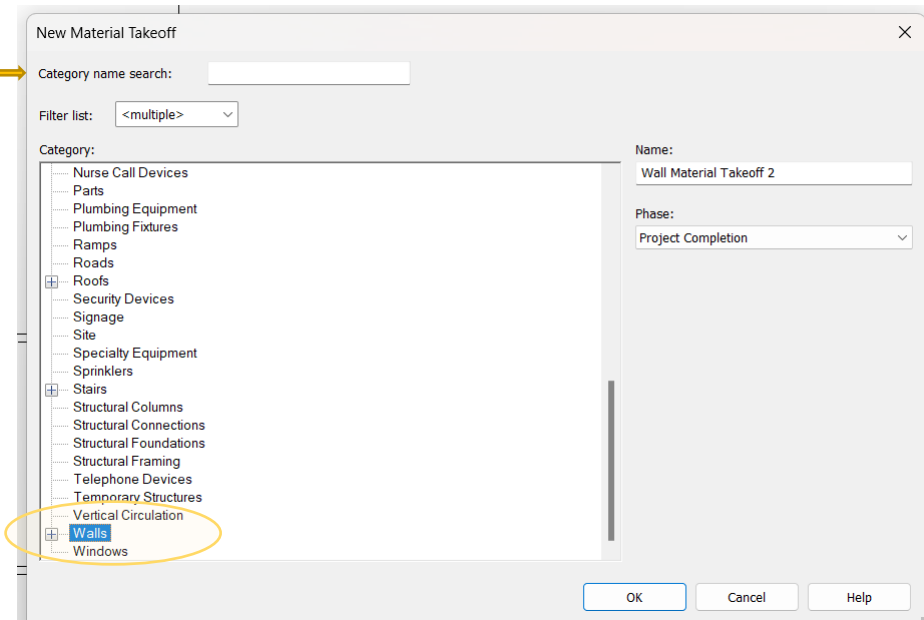
Δημιουργία προγραμμάτων Schedule

Υπολογισμός Κόστους

View > Schedule > Material Takeoff



Select Category e.g. Walls



Select Parameters

e.g. Family Type, Material Name,
Material Area, Material Cost

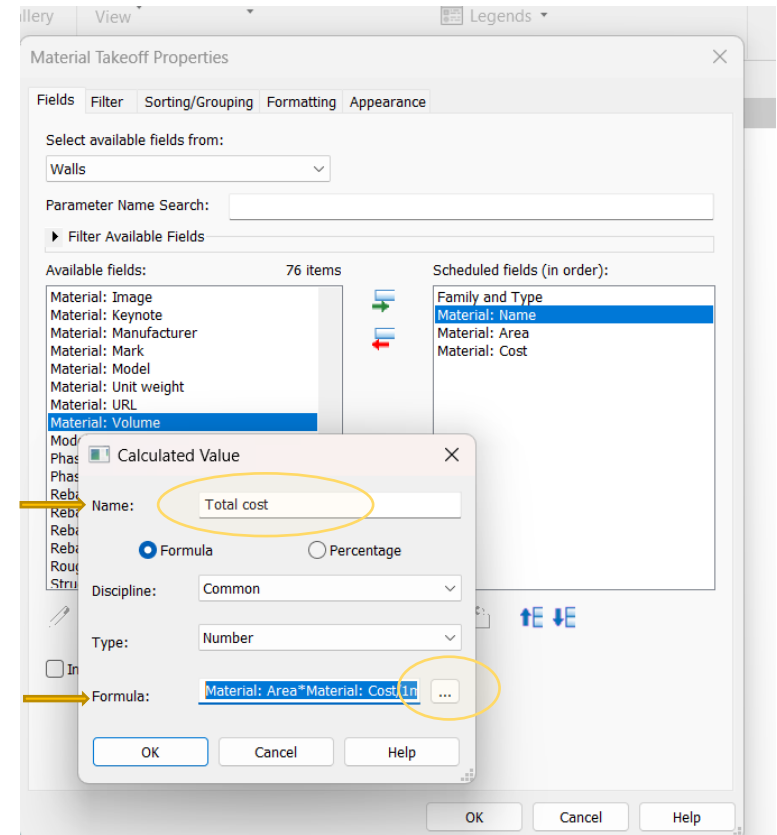
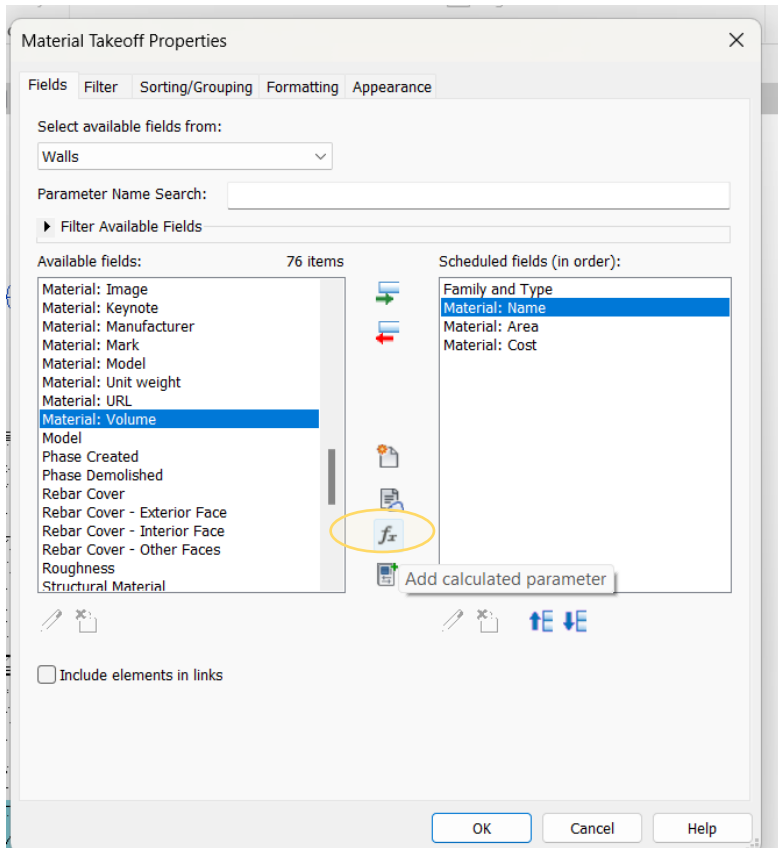
Revit Schedule

Δημιουργία προγραμμάτων Schedule

Υπολογισμός Κόστους

Add calculated parameter

Example: Name_Total Cost Formula_ (Material: Area*Material: Cost)/(1m^2)



Revit Schedule

Δημιουργία προγραμμάτων Schedule

Υπολογισμός Κόστους

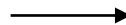
Add Material Cost > Enter

Properties: Walls, Material: Cost

Modify Schedule/Quantities

Level 1, Level 2, Door Schedule 2, Wall Material Takeoff 2

A	B	C	D	E
Family and Type	Material: Name	Material: Area	Material: Cost	Total cost
Basic Wall: ExteriorBrick, Common		7.17 m ²	0.00	0
Basic Wall: ExteriorAir		7.17 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		7.17 m ²	0.00	0
Basic Wall: ExteriorPlastic		14.34 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		9.33 m ²	0.00	0
Basic Wall: ExteriorAir		9.33 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		9.33 m ²	0.00	0
Basic Wall: ExteriorPlastic		18.66 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		8.88 m ²	0.00	0
Basic Wall: ExteriorAir		8.88 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		8.88 m ²	0.00	0
Basic Wall: ExteriorPlastic		17.76 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		3.52 m ²	0.00	0
Basic Wall: ExteriorAir		3.52 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		3.52 m ²	0.00	0
Basic Wall: ExteriorPlastic		7.05 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		10.23 m ²	0.00	0
Basic Wall: ExteriorAir		10.23 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		10.23 m ²	0.00	0
Basic Wall: ExteriorPlastic		20.46 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		8.32 m ²	0.00	0
Basic Wall: ExteriorAir		8.32 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		8.32 m ²	0.00	0
Basic Wall: ExteriorPlastic		16.64 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		5.69 m ²	0.00	0
Basic Wall: ExteriorAir		5.69 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		5.69 m ²	0.00	0
Basic Wall: ExteriorPlastic		11.37 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		5.69 m ²	0.00	0
Basic Wall: ExteriorAir		5.69 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		5.69 m ²	0.00	0
Basic Wall: ExteriorPlastic		11.37 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		6.07 m ²	0.00	0



Structure, Steel, Precast, Systems, Insert, Annotate, Analyze, Massing & Site, Collaborate

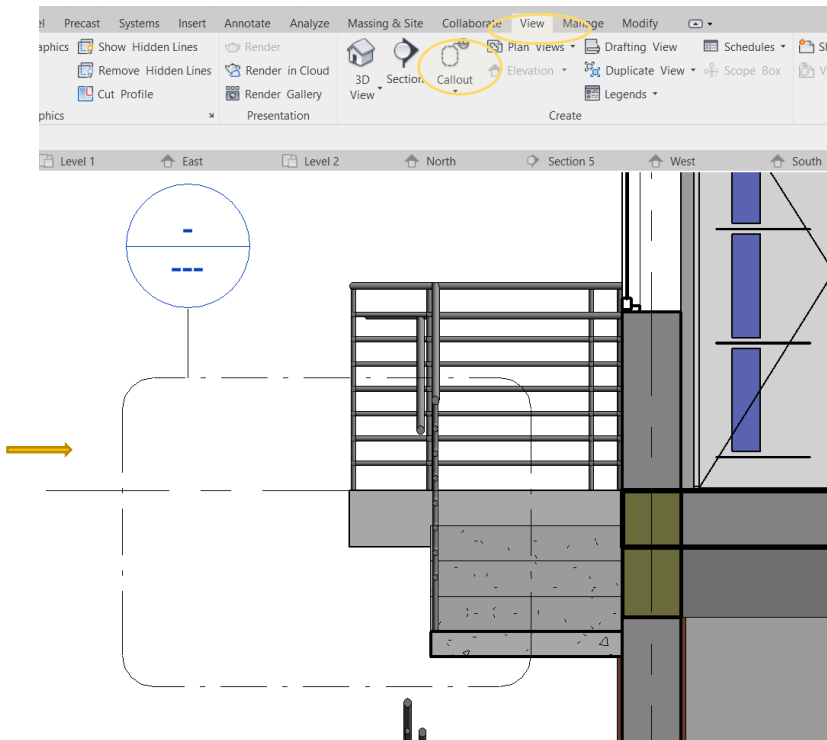
Level 1, Level 2, Door Schedule 2, Wall Material Takeoff 2

A	B	C	D	E
Family and Type	Material: Name	Material: Area	Material: Cost	Total cost
Basic Wall: ExteriorBrick, Common		7.17 m ²	12.00	86.0304
Basic Wall: ExteriorAir		7.17 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		7.17 m ²	0.00	0
Basic Wall: ExteriorPlastic		14.34 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		9.33 m ²	12.00	111.9504
Basic Wall: ExteriorAir		9.33 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		9.33 m ²	0.00	0
Basic Wall: ExteriorPlastic		18.66 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		8.88 m ²	12.00	106.5552
Basic Wall: ExteriorAir		8.88 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		8.88 m ²	0.00	0
Basic Wall: ExteriorPlastic		17.76 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		3.52 m ²	12.00	42.2784
Basic Wall: ExteriorAir		3.52 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		3.52 m ²	0.00	0
Basic Wall: ExteriorPlastic		7.05 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		10.23 m ²	12.00	122.7408
Basic Wall: ExteriorAir		10.23 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		10.23 m ²	0.00	0
Basic Wall: ExteriorPlastic		20.46 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		8.32 m ²	12.00	99.8112
Basic Wall: ExteriorAir		8.32 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		8.32 m ²	0.00	0
Basic Wall: ExteriorPlastic		16.64 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		5.69 m ²	12.00	68.2416
Basic Wall: ExteriorAir		5.69 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		5.69 m ²	0.00	0
Basic Wall: ExteriorPlastic		11.37 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		5.69 m ²	12.00	68.2416
Basic Wall: ExteriorAir		5.69 m ²	0.00	0
Basic Wall: ExteriorAir Infiltration Barrier		5.69 m ²	0.00	0
Basic Wall: ExteriorPlastic		11.37 m ²	0.00	0
Basic Wall: ExteriorBrick, Common		6.07 m ²	12.00	72.8352

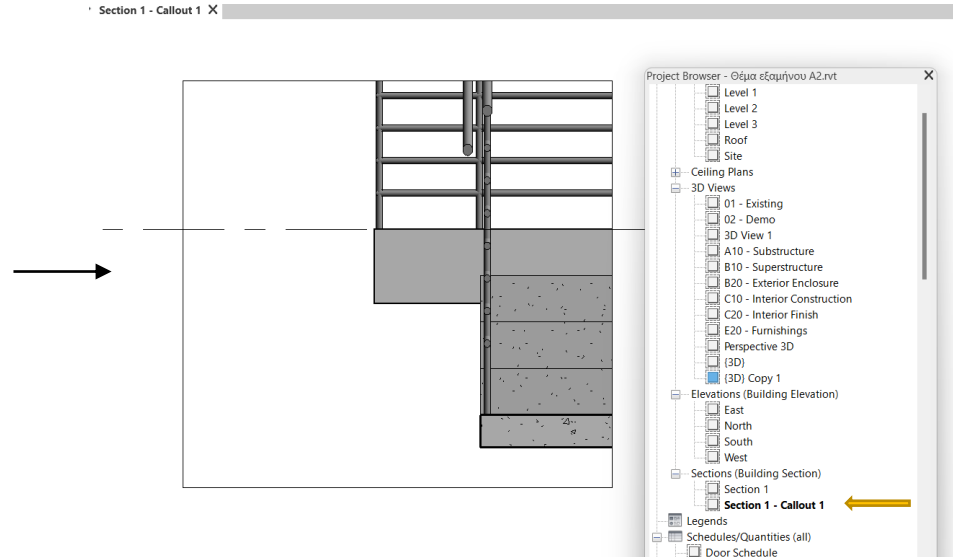
Revit Detail Callout

Δημιουργία λεπτομέρειας σχεδίου

View > Callout > Επιλογή περιοχής λεπτομέρειας



Δημιουργείται **Callout** στο **Project Browser**



Revit Sheets

Διαμόρφωση και Εισαγωγή σχεδίων σε Sheets

Επεξεργασία template – sheet

Άνοιγμα **Sheet family** στο περιβάλλον του Revit

Διαμόρφωση του επιθυμητού **template** > **Save as** π.χ. “Template A3”

The screenshot displays the Revit interface with the 'Modify | Lines' ribbon active. The Properties panel on the left shows the following settings for the selected line:

- Lines (<Medium Lines> Edit Type)
- Constraints: Work Plane: Sheet
- Graphics: Visible:
- Dimensions: Length: 1' 4 1/2"
- Identity Data: Subcategory: <Medium Lines>
- Other: Reference: Weak Reference

The main view shows a sheet layout with dimensions and a title block. The dimensions are 0' - 11 19/256" (width) and 0' - 9 9/256" (height). The title block contains the following information:

No.	Description	Date

Client Name
Project Name

Sheet Name
Project number: 2000 01
Date: 01 January, 2000
Drawn by: DRW
Checked by: CHK
Scale: 1/8" = 1'-0"

Arch-0001

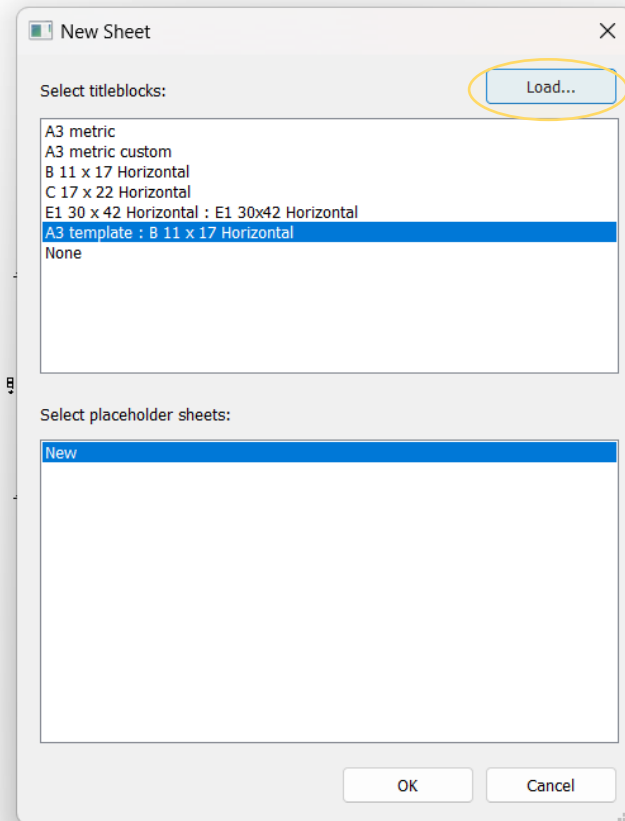
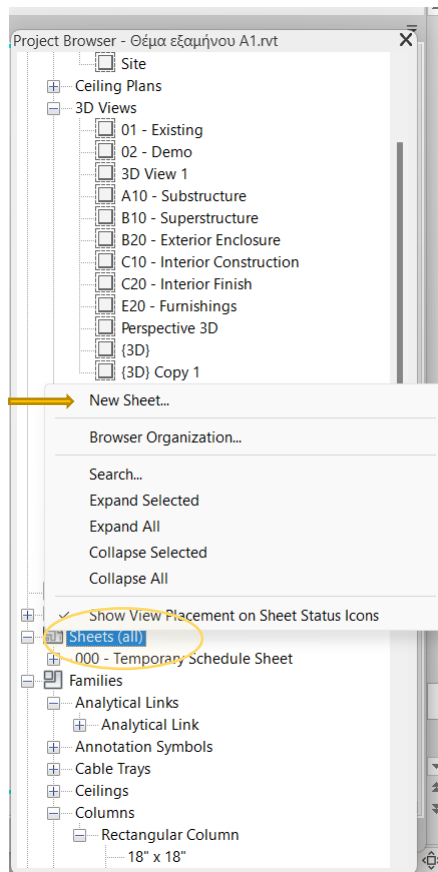
www.autodesk.com/revit

Revit Sheets

Διαμόρφωση και Εισαγωγή σχεδίων σε Sheets

Εισαγωγή sheet

Project Browser > Δεξί Click Sheets > New Sheet > Load > Άνοιγμα αρχείου π.χ. Template A3

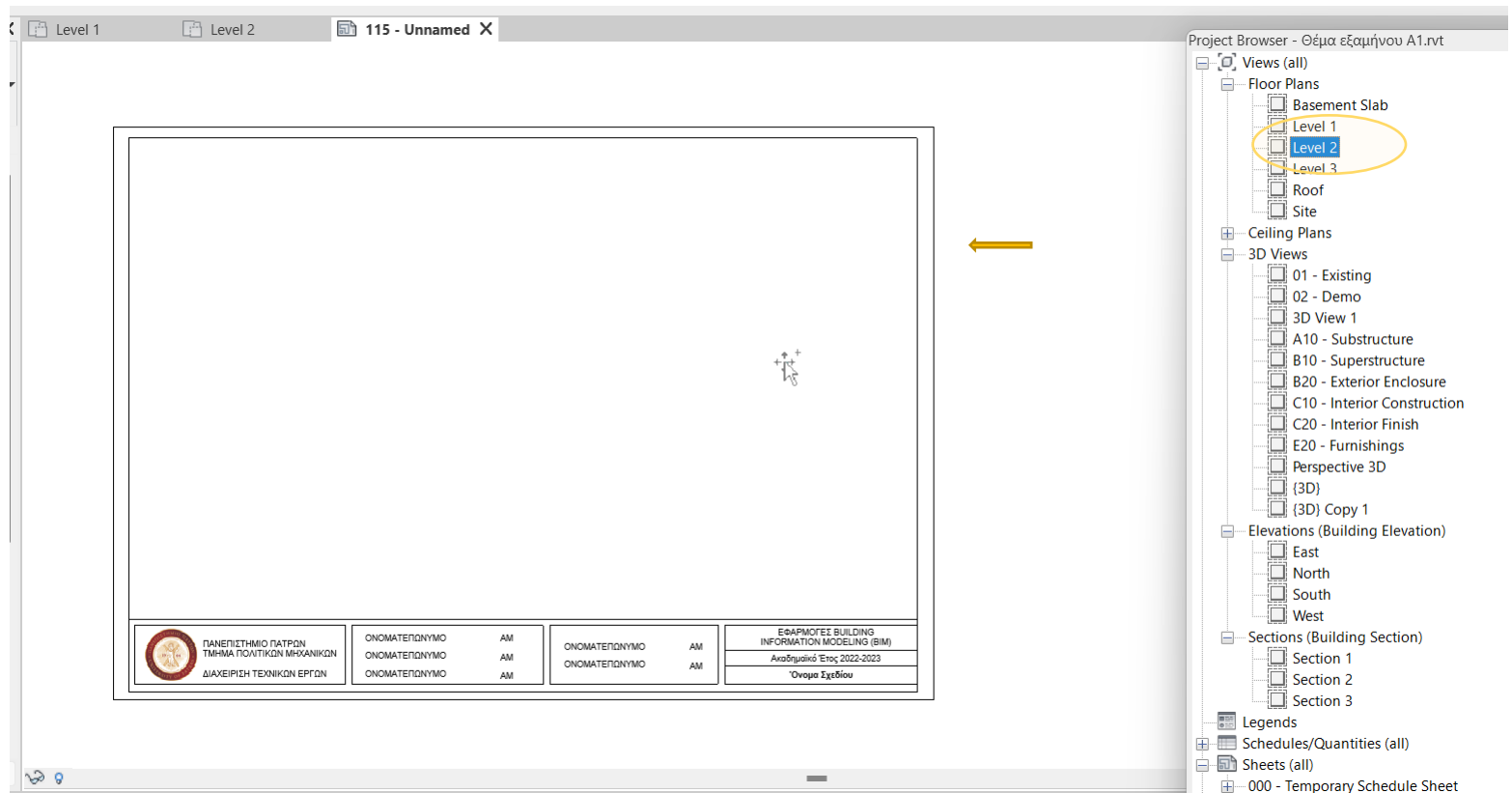


Revit Sheets

Διαμόρφωση και Εισαγωγή σχεδίων σε Sheets

Εισαγωγή Σχεδίου στο Sheet

Project Browser > Επιλογή του σχεδίου > Drag & Drop στο Sheet



Revit Sheets

Διαμόρφωση και Εισαγωγή σχεδίων σε Sheets

Αλλαγή κλίμακας Σχεδίου

Properties > View Scale > Apply

The screenshot displays the Revit interface with the Properties panel open for a Viewport. The View Scale is highlighted and set to 1:50. The main view shows a floor plan with rooms: Καθιστικό (Living Room), WC, and Υπνοδωμάτιο (Bedroom). A Room Legend is visible on the right. The bottom of the sheet contains a title block with project information and a date range from 2022 to 2023.

Room Name	Color
Καθιστικό	Yellow
WC	Green
Υπνοδωμάτιο	Blue

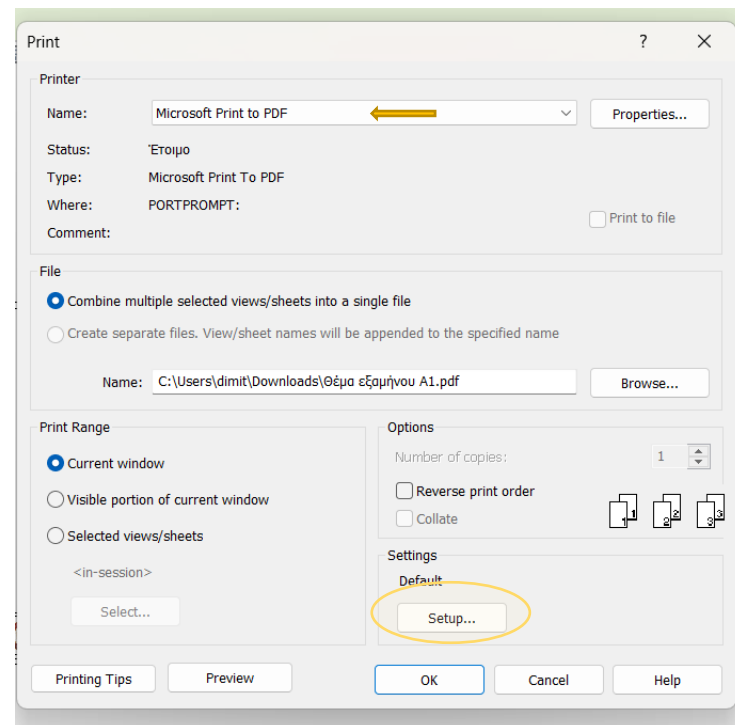
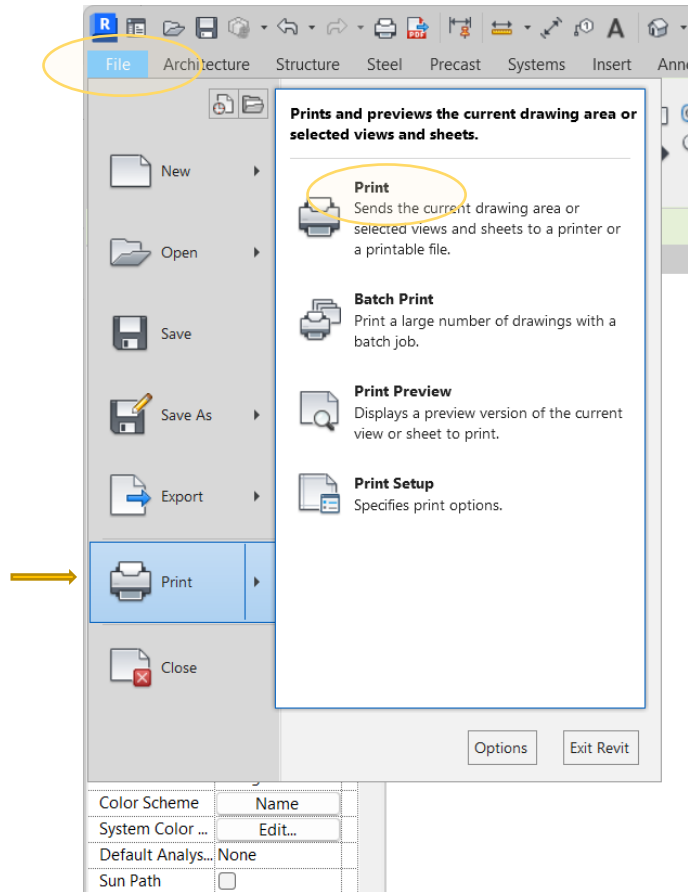
ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ ΤΜΗΜΑ ΠΟΛΙΤΙΚΩΝ ΜΗΧΑΝΙΚΩΝ ΔΙΑΧΕΙΡΙΣΗ ΤΕΧΝΙΚΩΝ ΕΡΓΩΝ	ΟΝΟΜΑΤΕΠΩΝΥΜΟ AM	ΟΝΟΜΑΤΕΠΩΝΥΜΟ AM	ΕΞΑΡΜΟΤΕΣ BUILDING INFORMATION MODELING (BIM) Αναθιμητικό Έτος: 2022-2023 Όνομα Σχεδίου
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Revit Sheets

Διαμόρφωση και Εισαγωγή σχεδίων σε Sheets

Εκτύπωση Sheet

File > Print > Print > Print to PDF > Select Printer > Setup



Revit Sheets

Διαμόρφωση και Εισαγωγή σχεδίων σε Sheets

Εκτύπωση Sheet

Ρυθμίσεις ενδεικτικά:

Size: A3, Orientation: Landscape

Zoom: 100, Paper placement: Center

Ορισμός File location

Προεπισκόπηση - Preview

Αποθήκευση - Εκτύπωση

