

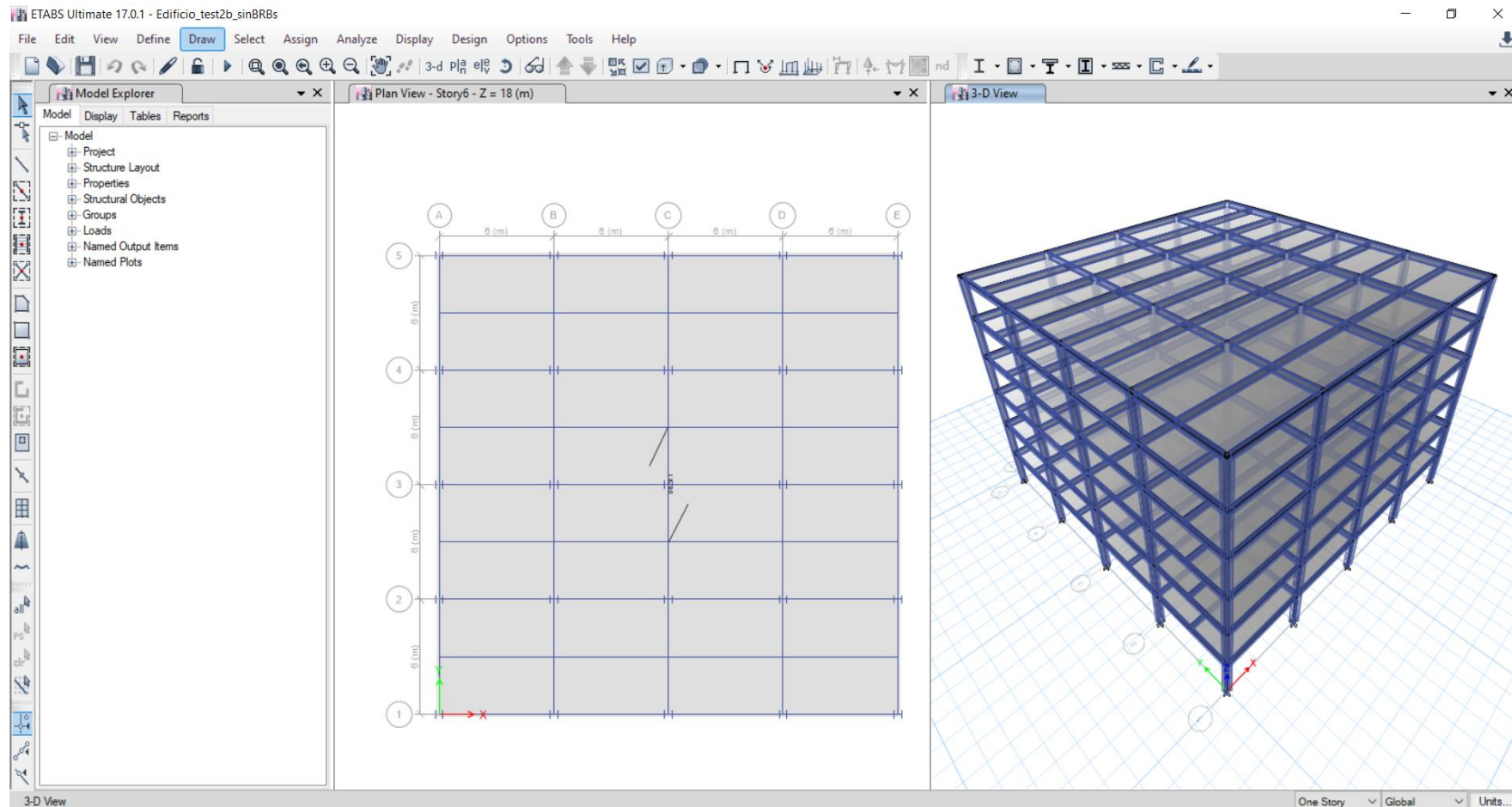


DAMPO

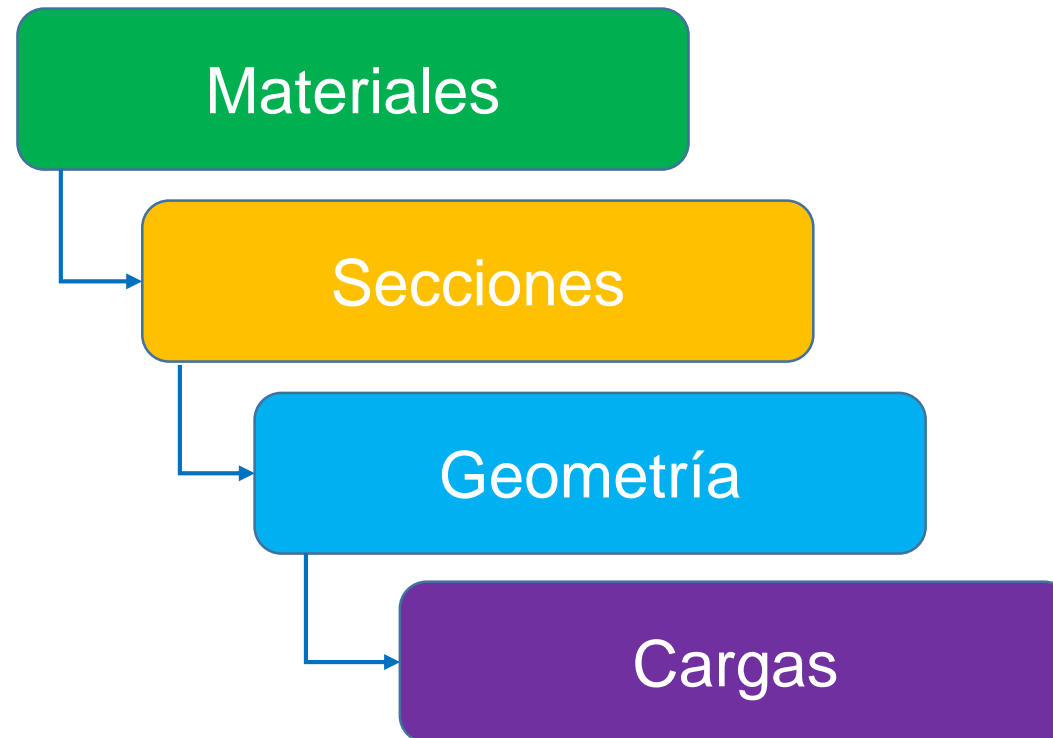
Modelado de Edificio de Acero

Dr. Héctor Guerrero Bobadilla

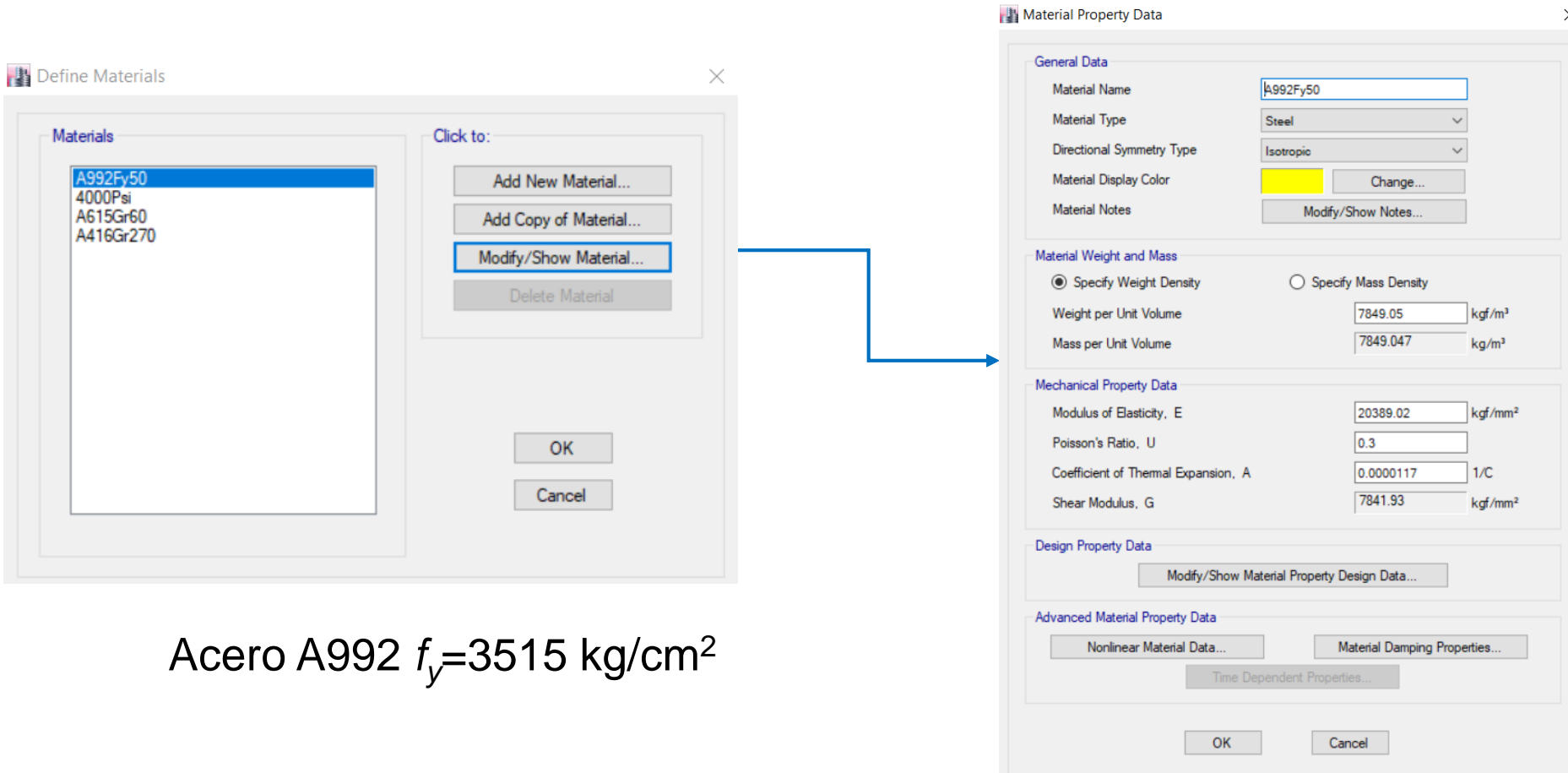
Modelado de Edificio de Acero



Modelado de Edificio de Acero



Materiales



The image shows two software dialog boxes. The left box, titled 'Define Materials', contains a list of materials: A992Fy50, 4000Psi, A615Gr60, and A416Gr270. The 'A992Fy50' material is selected. To the right of the list are buttons: 'Add New Material...', 'Add Copy of Material...', 'Modify/Show Material...' (highlighted with a blue border), and 'Delete Material'. At the bottom are 'OK' and 'Cancel' buttons. A blue arrow points from the 'Modify/Show Material...' button to the right box.

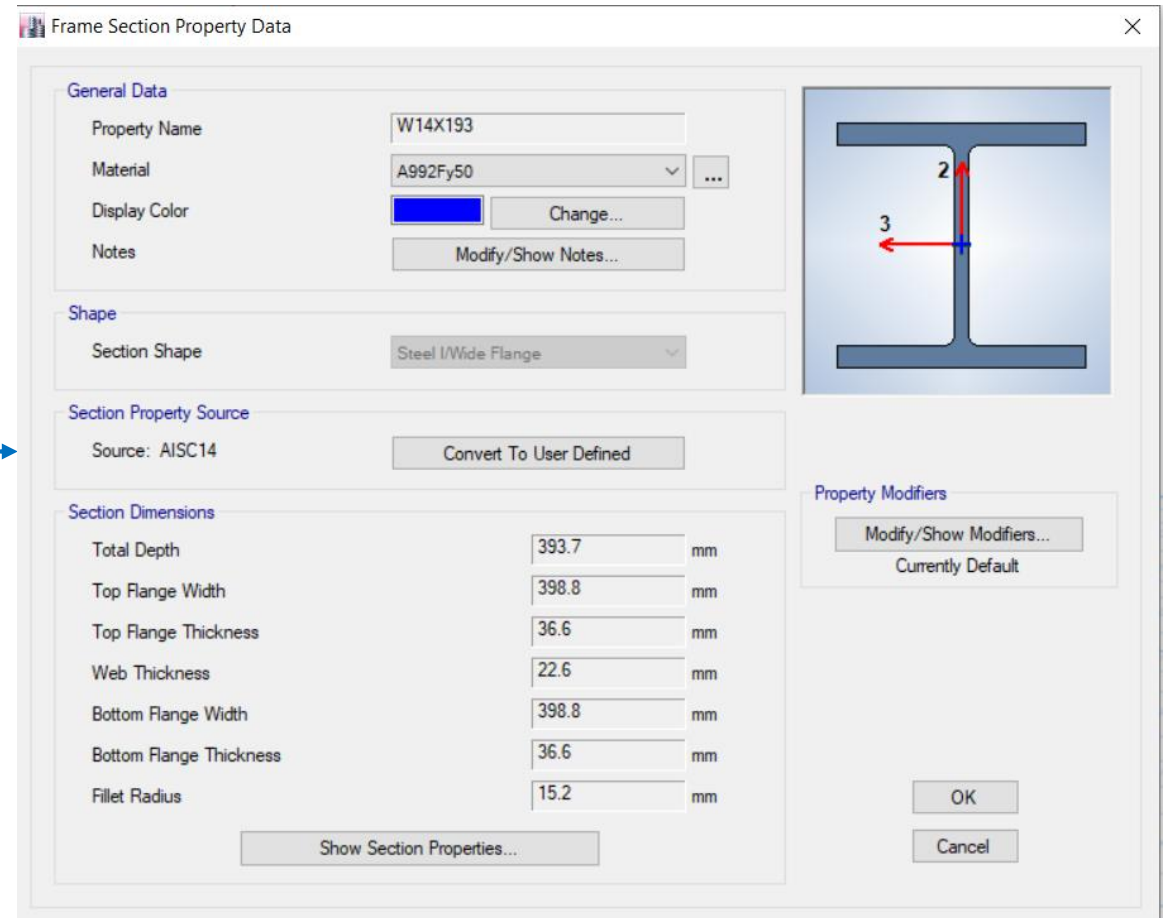
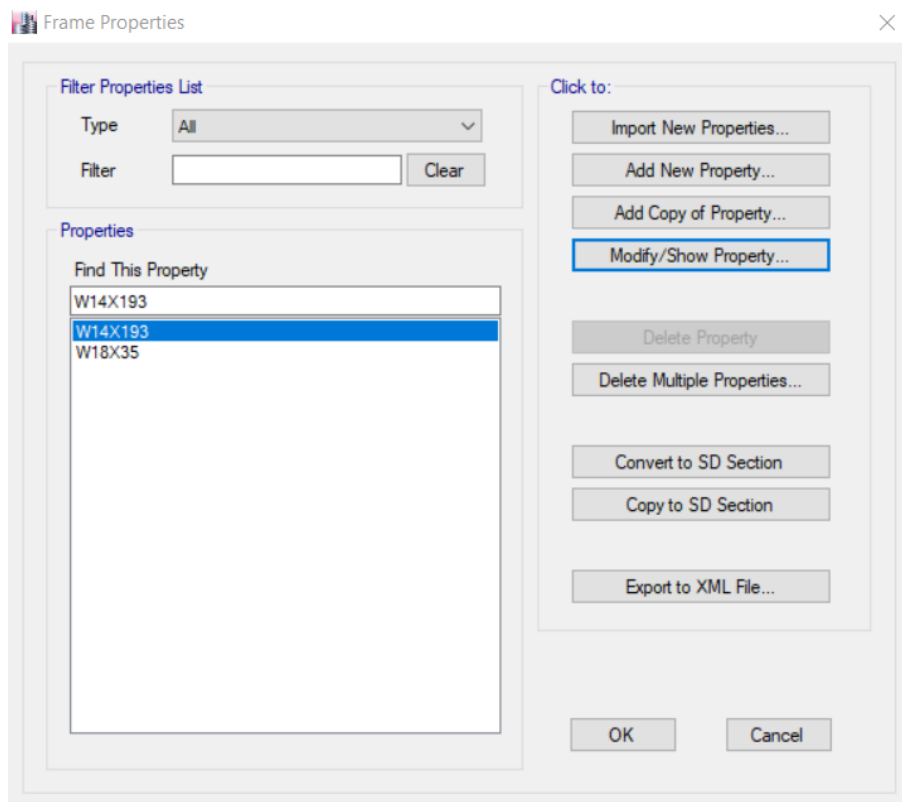
The right box, titled 'Material Property Data', displays the properties for the selected material 'A992Fy50'. It is organized into several sections:

- General Data:**
 - Material Name: A992Fy50
 - Material Type: Steel
 - Directional Symmetry Type: Isotropic
 - Material Display Color: Yellow (with a 'Change...' button)
 - Material Notes: (with a 'Modify/Show Notes...' button)
- Material Weight and Mass:**
 - ☒ Specify Weight Density
 - ☐ Specify Mass Density
 - Weight per Unit Volume: 7849.05 kgf/m³
 - Mass per Unit Volume: 7849.047 kg/m³
- Mechanical Property Data:**
 - Modulus of Elasticity, E: 20389.02 kgf/mm²
 - Poisson's Ratio, U: 0.3
 - Coefficient of Thermal Expansion, A: 0.0000117 1/C
 - Shear Modulus, G: 7841.93 kgf/mm²
- Design Property Data:**
 - (with a 'Modify/Show Material Property Design Data...' button)
- Advanced Material Property Data:**
 - Nonlinear Material Data...
 - Material Damping Properties...
 - Time Dependent Properties...

At the bottom of the 'Material Property Data' dialog are 'OK' and 'Cancel' buttons.

Acero A992 $f_y=3515 \text{ kg/cm}^2$

Secciones



Secciones

W14x193

A992

IPR

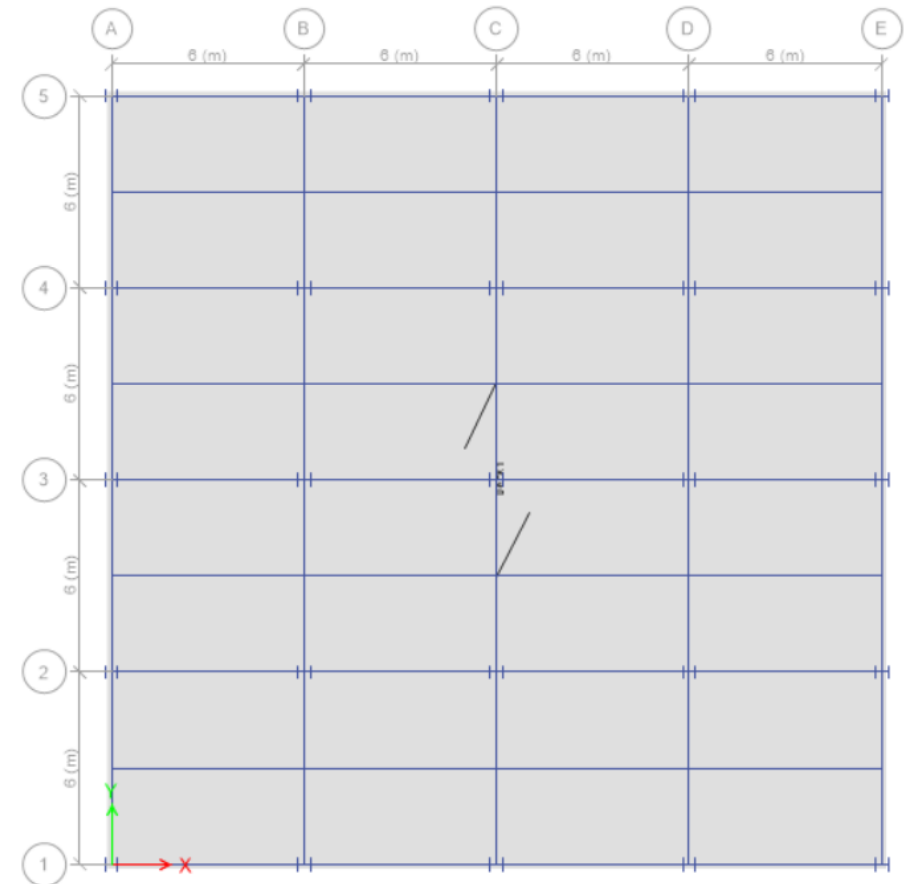
W18x35

A992

IPR

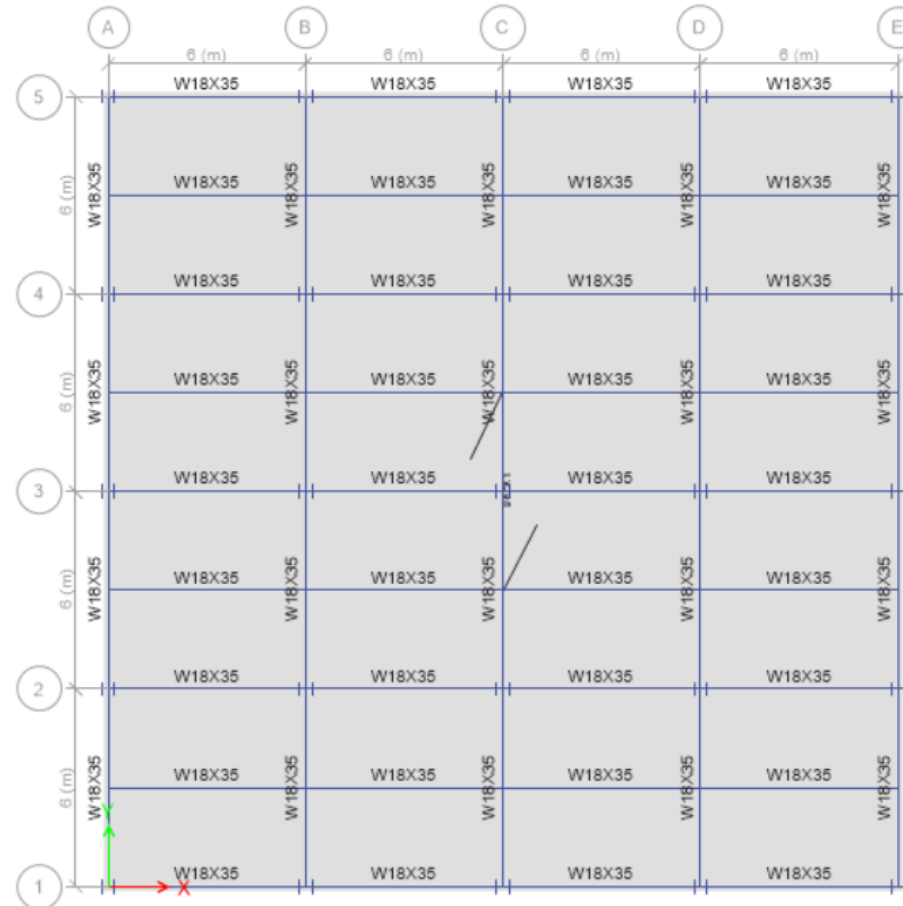
Geometría edificio

- Base empotrada
- 4 crujías en cada dirección de 6 m cada una
- 6 niveles
- Altura de entrepiso de 3 m



Geometría edificio

Perfiles:
Niveles 1 a 6



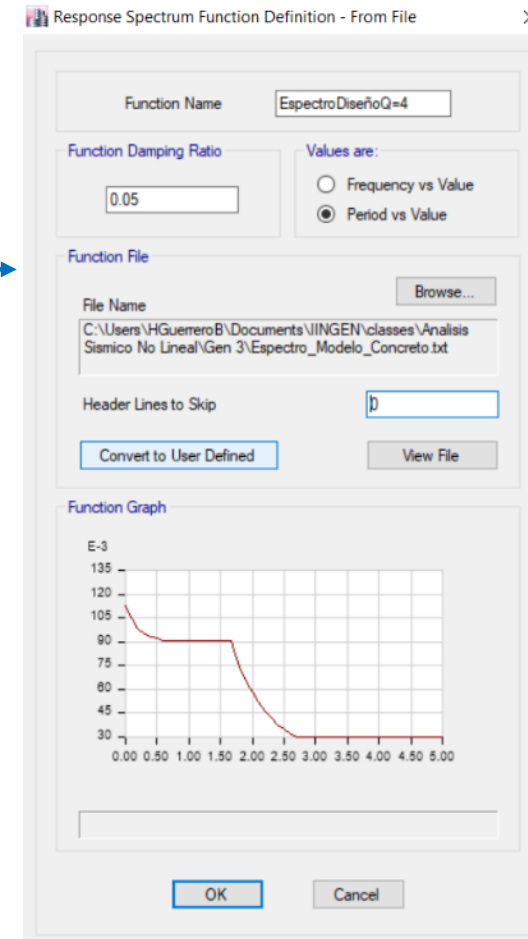
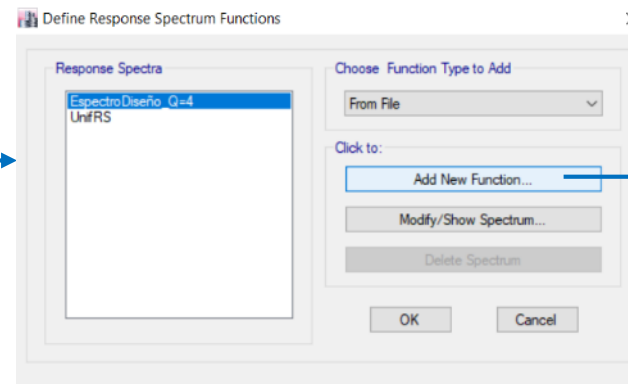
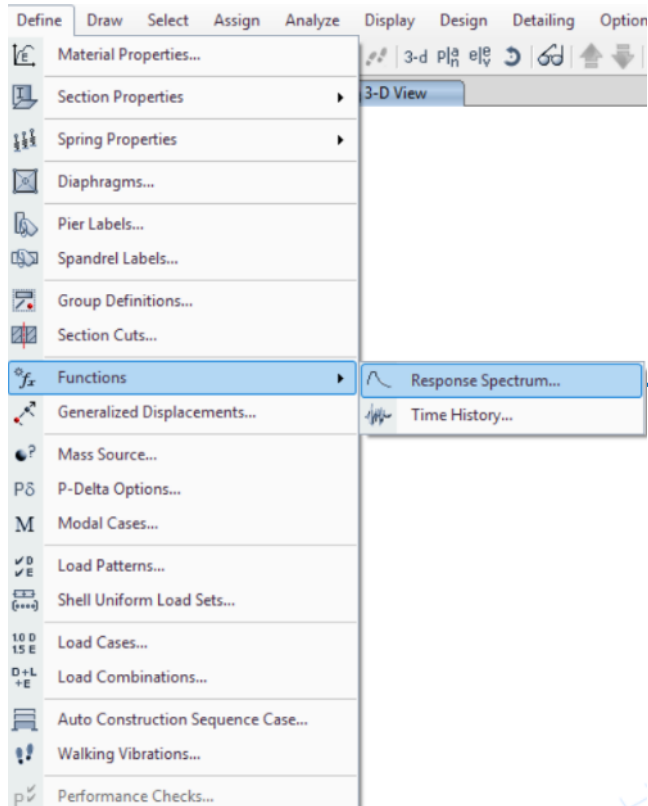
Secciones

Todas las
Columnas



Cargas

Cargar espectro

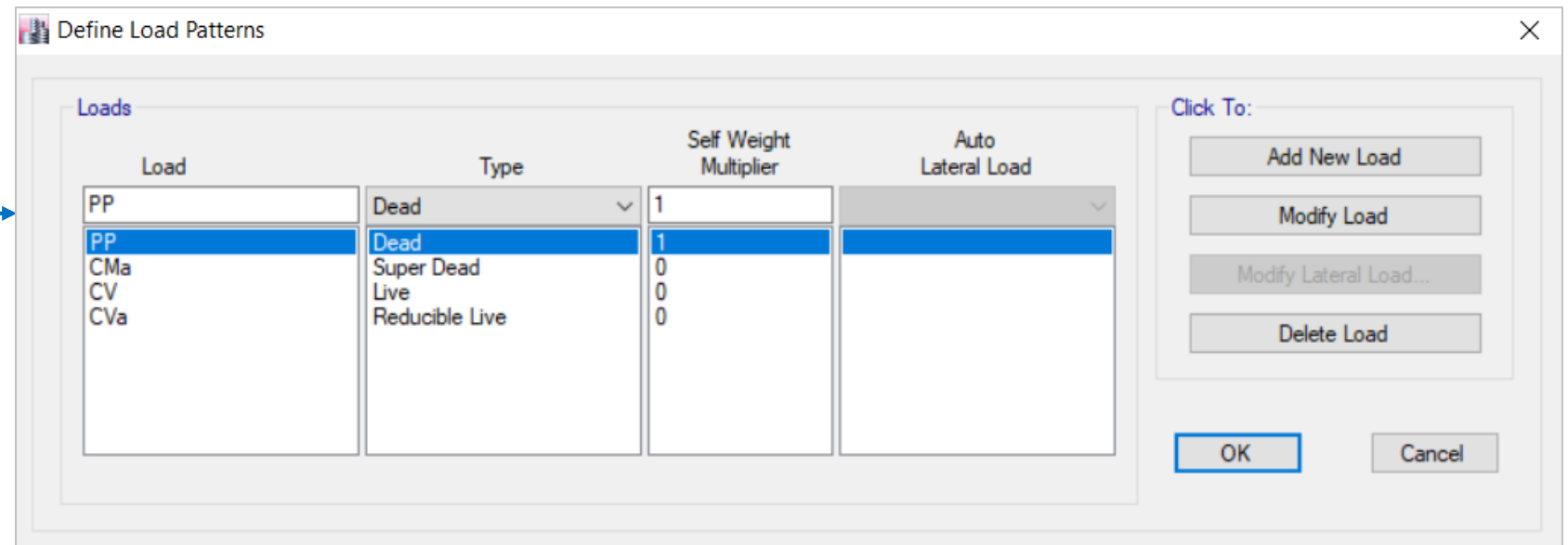
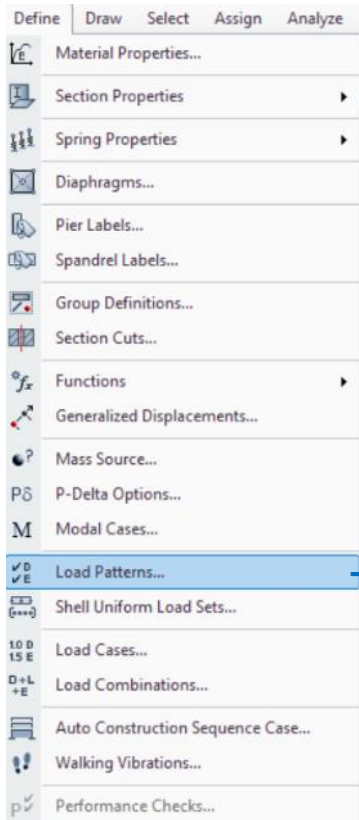


Cargas

Tipo	Oficina, kg/m ²	Azotea, kg/m ²
Carga muerta adicional al PP (CMa)	200	400
Carga viva máxima (CVm)	250	350
Carga viva instantánea (CVa)	180	250

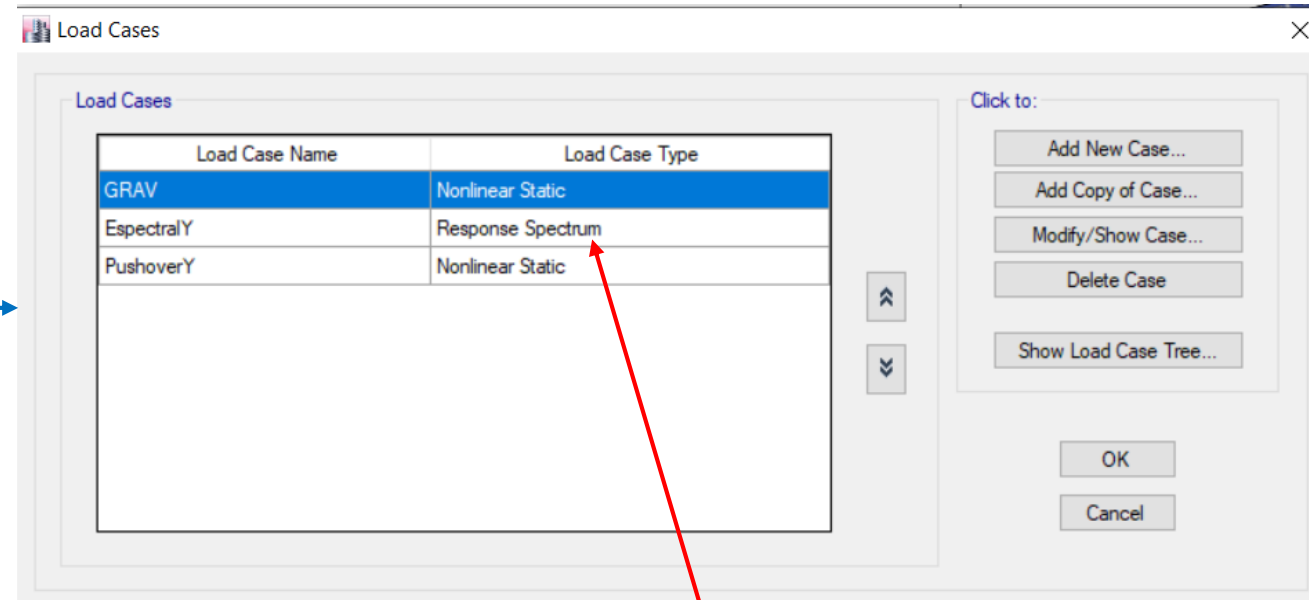
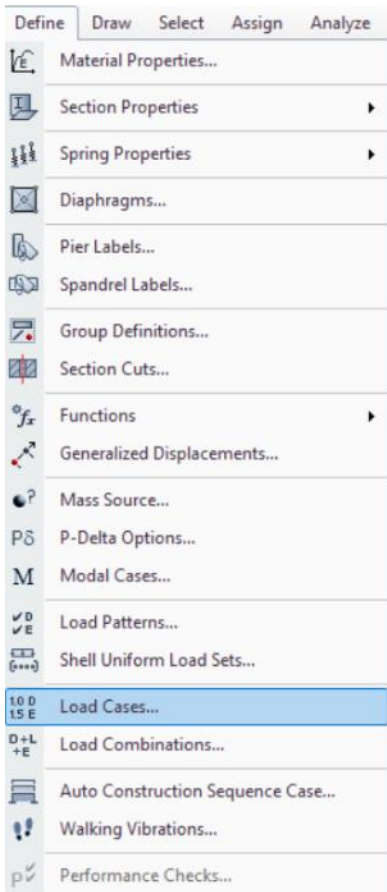
Cargas

Primero se deben
definir “Load Patterns”



Cargas

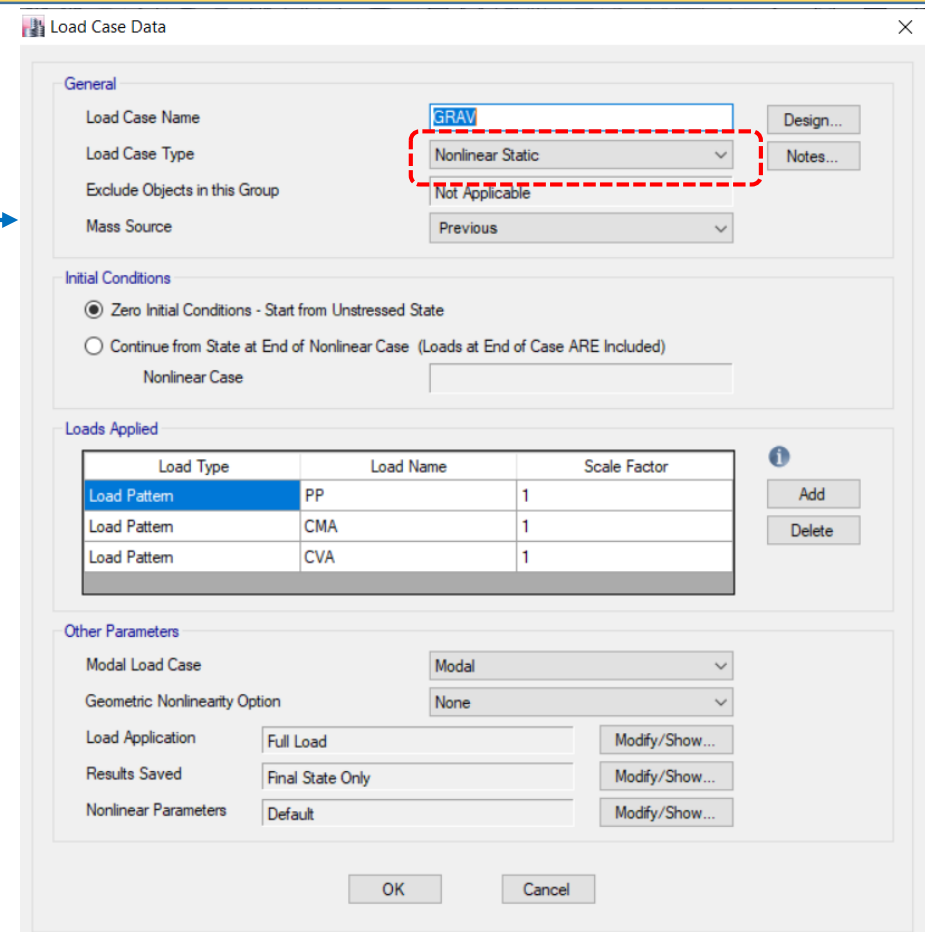
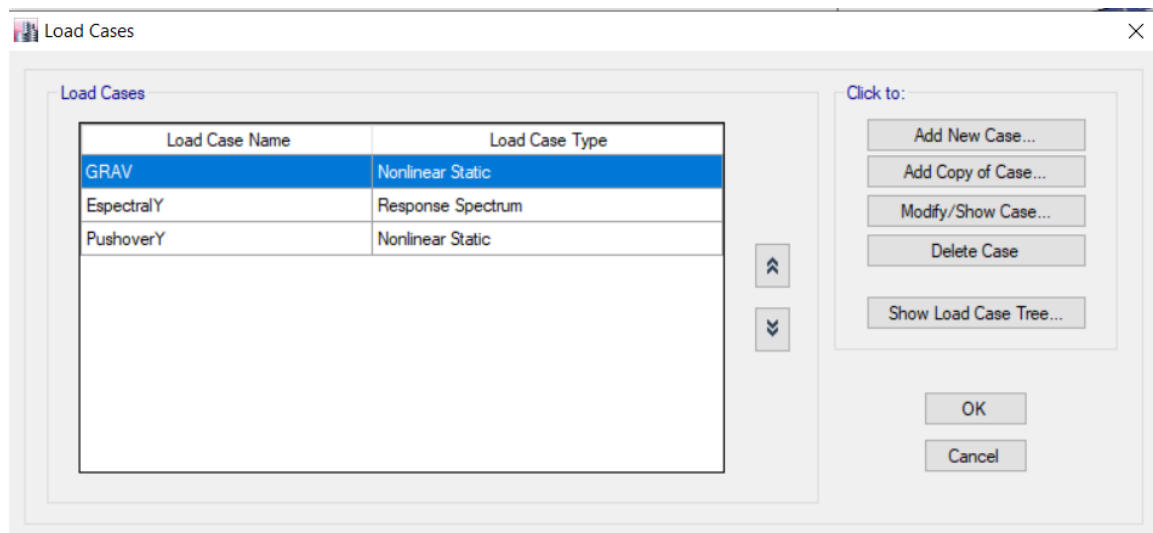
Luego se deben definir
“Load Cases”



El tipo de análisis es importante

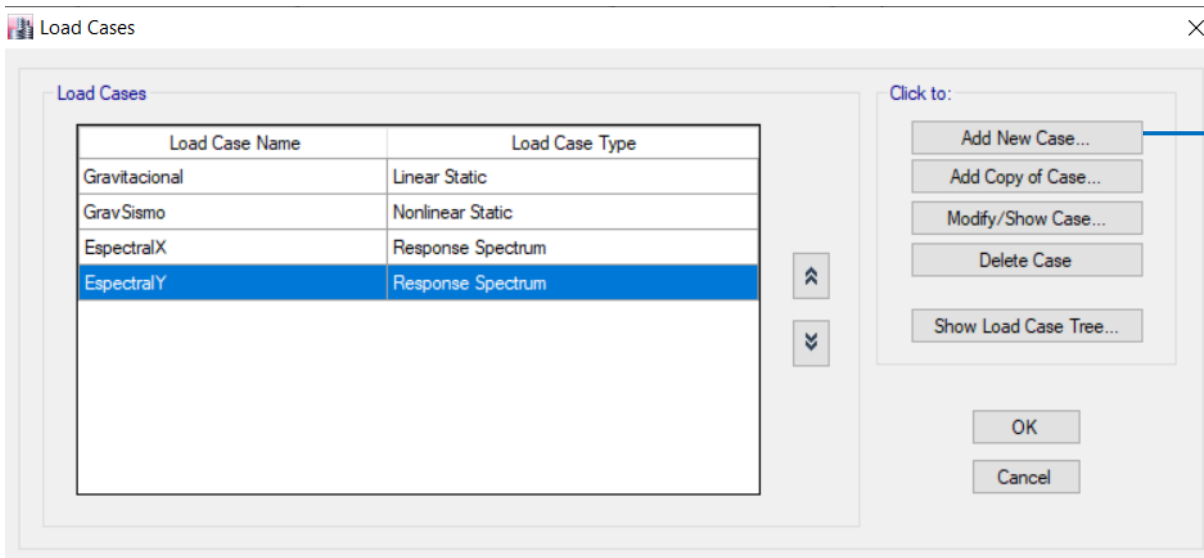
Cargas

Casos



Cargas

Caso “Response Spectrum”



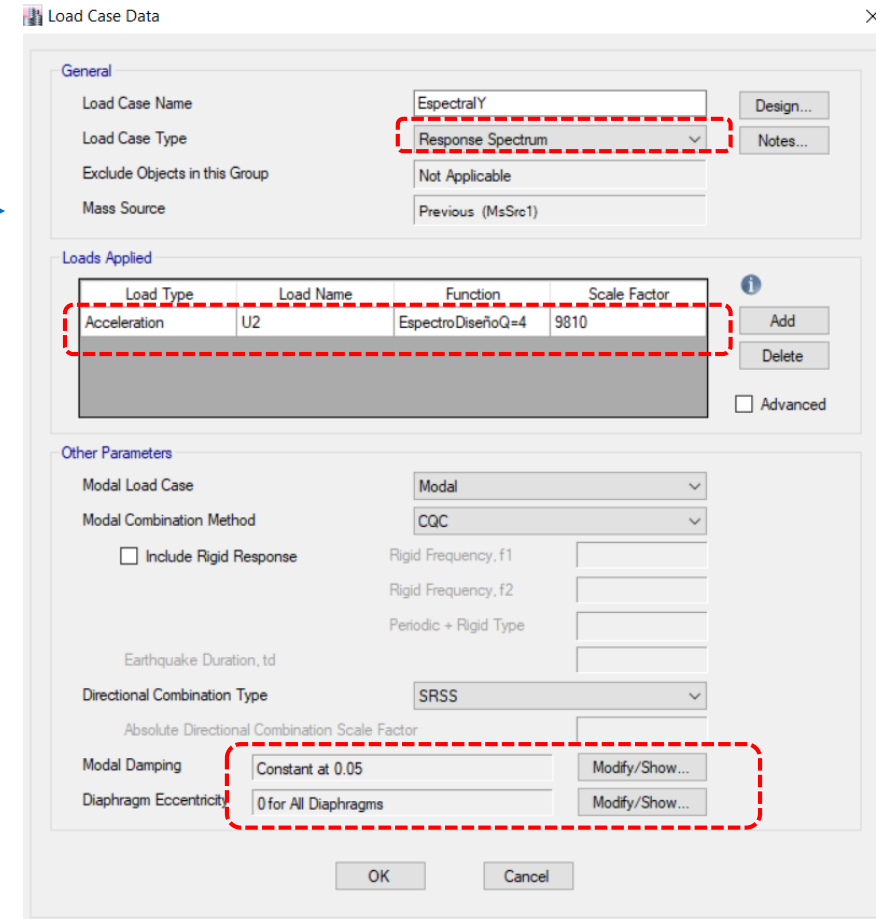
Load Cases

Load Case Name	Load Case Type
Gravitacional	Linear Static
GravSismo	Nonlinear Static
EspectralX	Response Spectrum
EspectralY	Response Spectrum

Click to:

- Add New Case...
- Add Copy of Case...
- Modify/Show Case...
- Delete Case
- Show Load Case Tree...

OK Cancel



Load Case Data

General

Load Case Name: EspectralY

Load Case Type: Response Spectrum

Exclude Objects in this Group: Not Applicable

Mass Source: Previous (MsSrc1)

Design... Notes...

Loads Applied

Load Type	Load Name	Function	Scale Factor
Acceleration	U2	EspectroDiseñoQ=4	9810

Add Delete

Advanced

Other Parameters

Modal Load Case: Modal

Modal Combination Method: CQC

☐ Include Rigid Response

Rigid Frequency, f1:

Rigid Frequency, f2:

Periodic + Rigid Type:

Earthquake Duration, td:

Directional Combination Type: SRSS

Absolute Directional Combination Scale Factor:

Modal Damping: Constant at 0.05

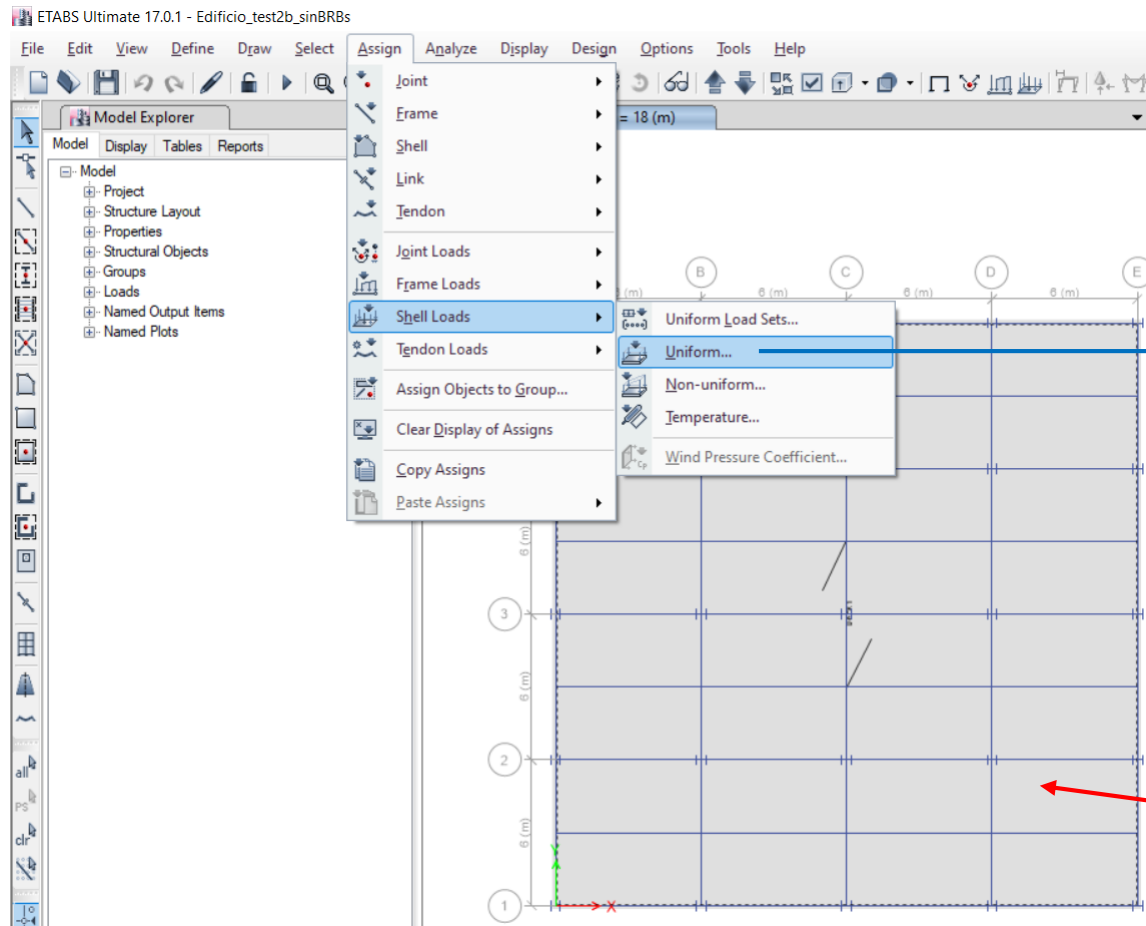
Diaphragm Eccentricity: 0 for All Diaphragms

Modify/Show... Modify/Show...

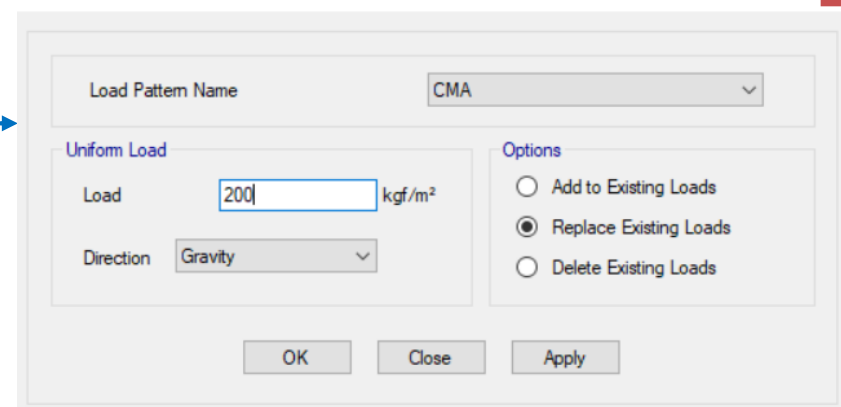
OK Cancel

Cargas

(Cargar losa)

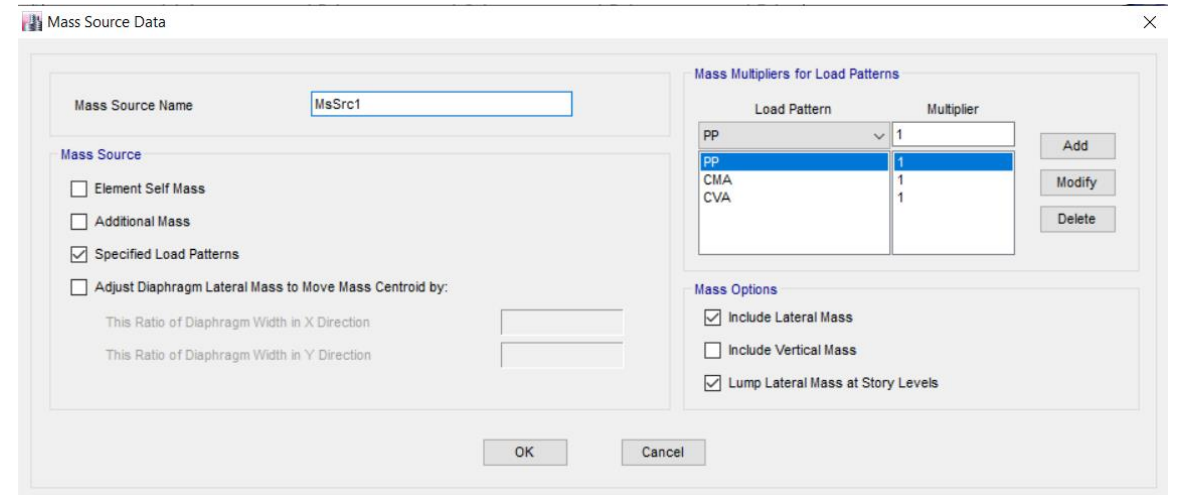
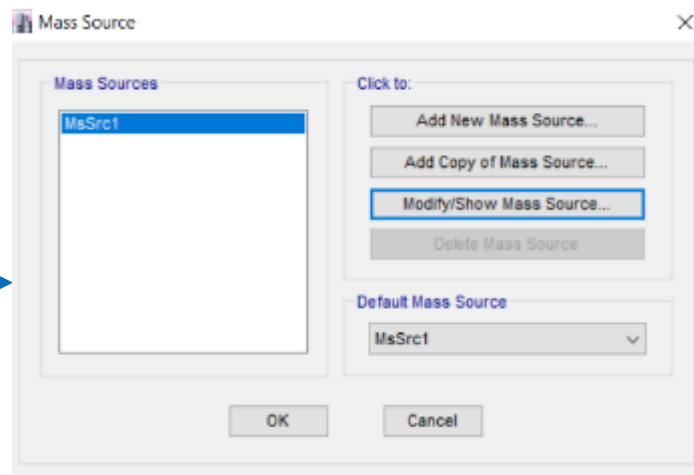
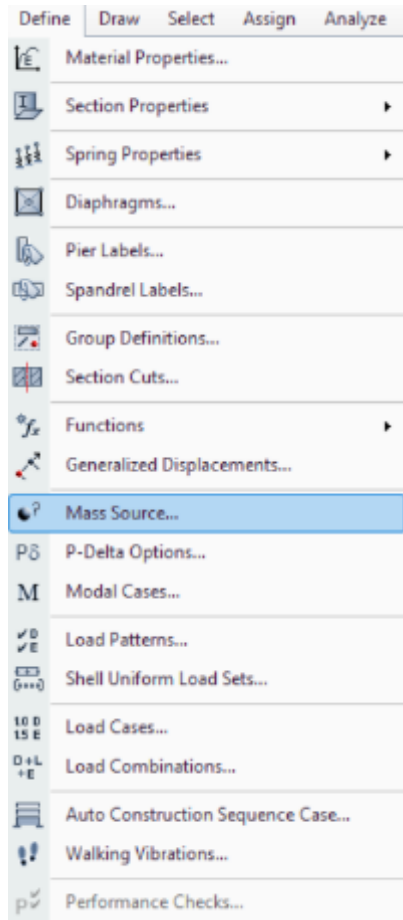


Shell Load Assignment - Uniform

The dialog box 'Shell Load Assignment - Uniform' is shown. It has a 'Load Pattern Name' dropdown set to 'CMA'. Under the 'Uniform Load' section, the 'Load' is set to '200' kgf/m² and the 'Direction' is set to 'Gravity'. On the right, under the 'Options' section, the 'Replace Existing Loads' radio button is selected. At the bottom are 'OK', 'Close', and 'Apply' buttons.

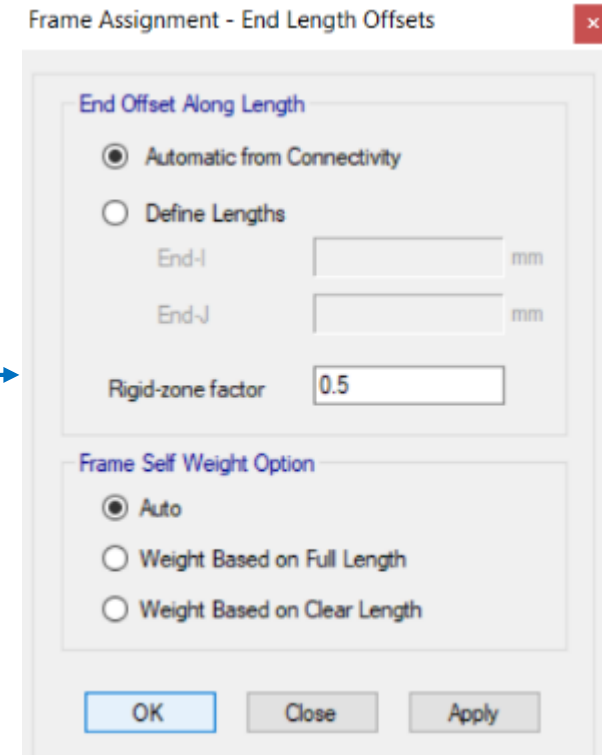
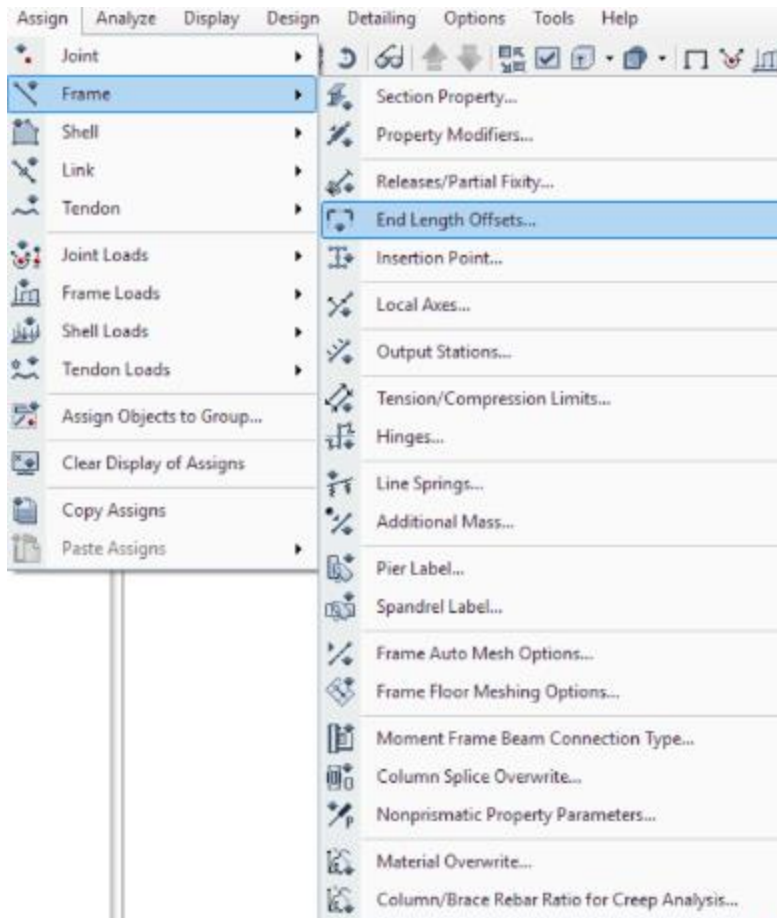
Primero se selecciona la losa a cargar!

Origen de masa



Conexiones rígidas

Previa
selección
de todos
los
elementos



Diafragmas rígidos

Previa
selección
de todos
los
elementos

