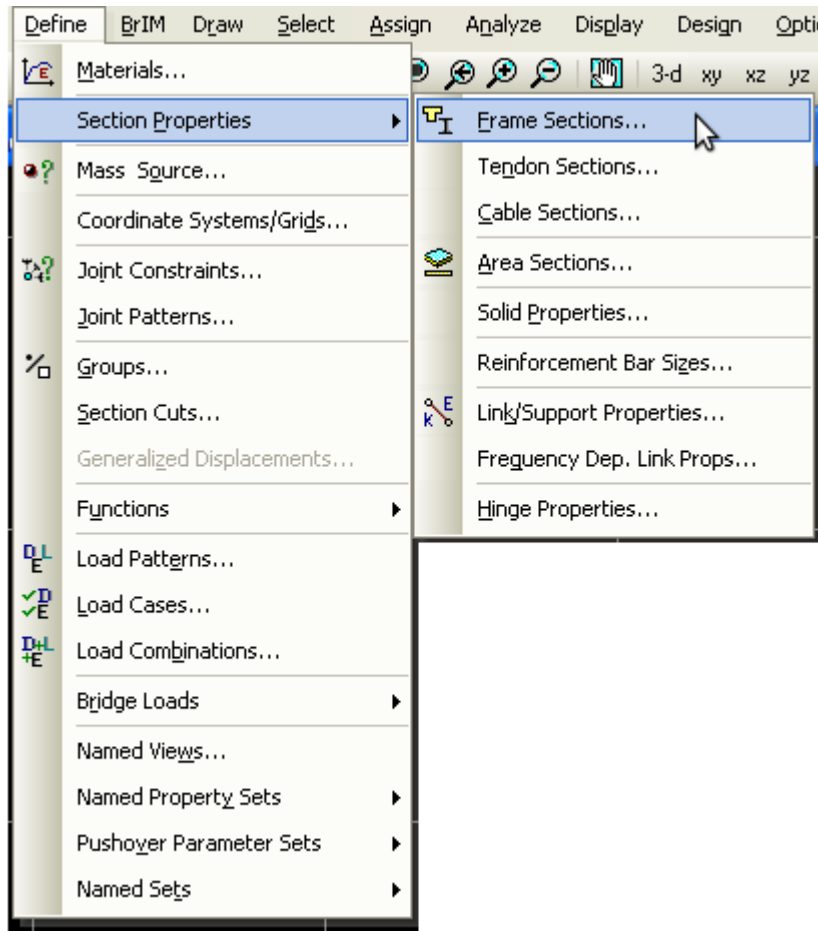


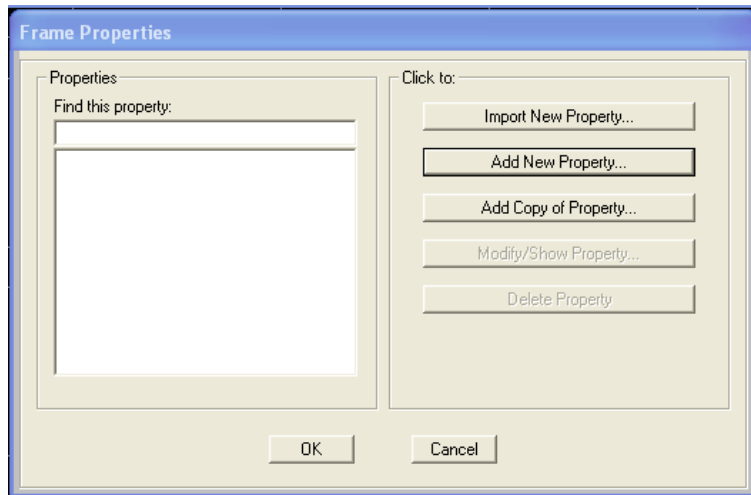
# Mini manual para trabajar con **Momento – Curvatura** en SAP2000 v12



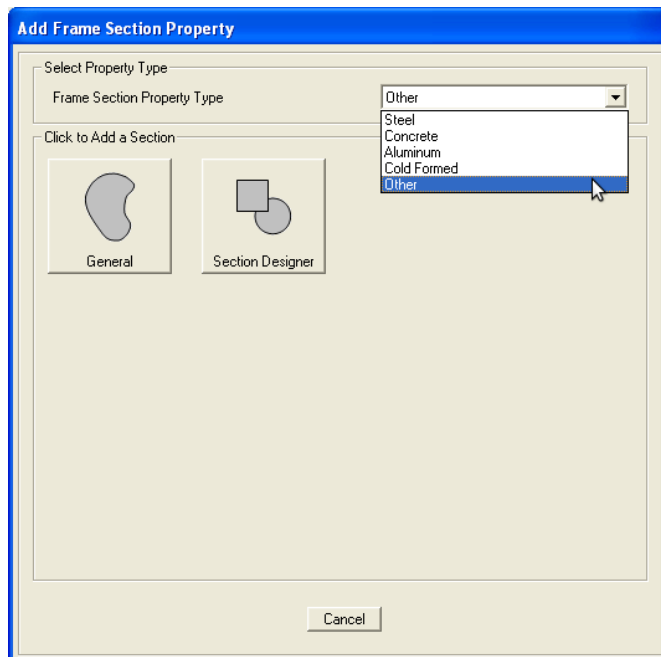
Me salto todos los pasos de instalar-crackear – ejecutar el programa.. blabla

1) Ir a **Define – Section Properties – Frame Sections**

## 2) Add New Property...



## 3) Frame Section Property Type → Other Click en **Section Designer**



## 4) Section Data

Pongale nombre, juguen con el material, ir a **Section Designer**

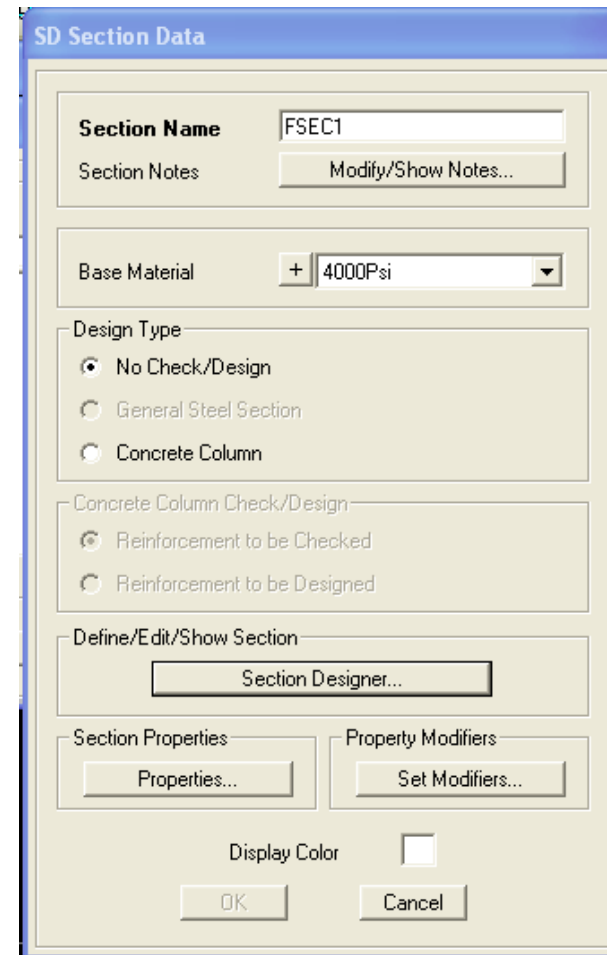
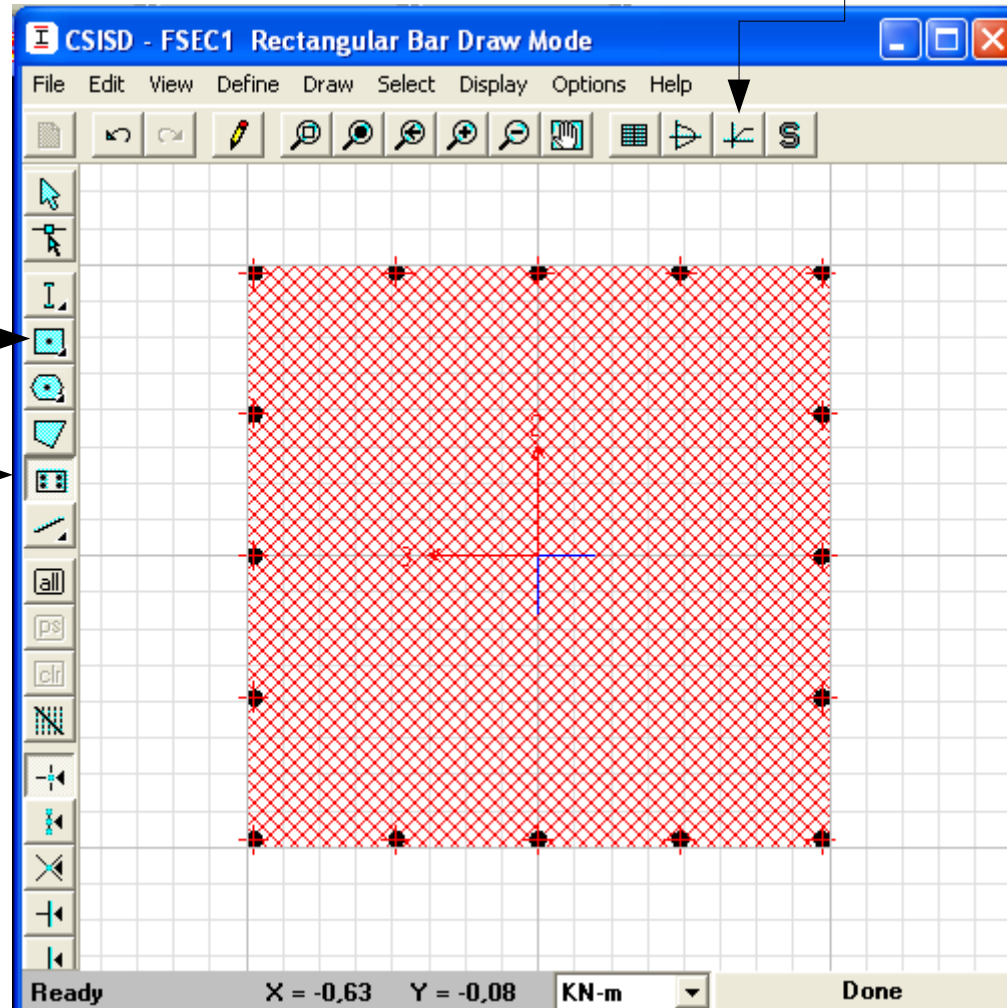


Diagrama momento curvatura y  
otras maravillas de la ingenieria

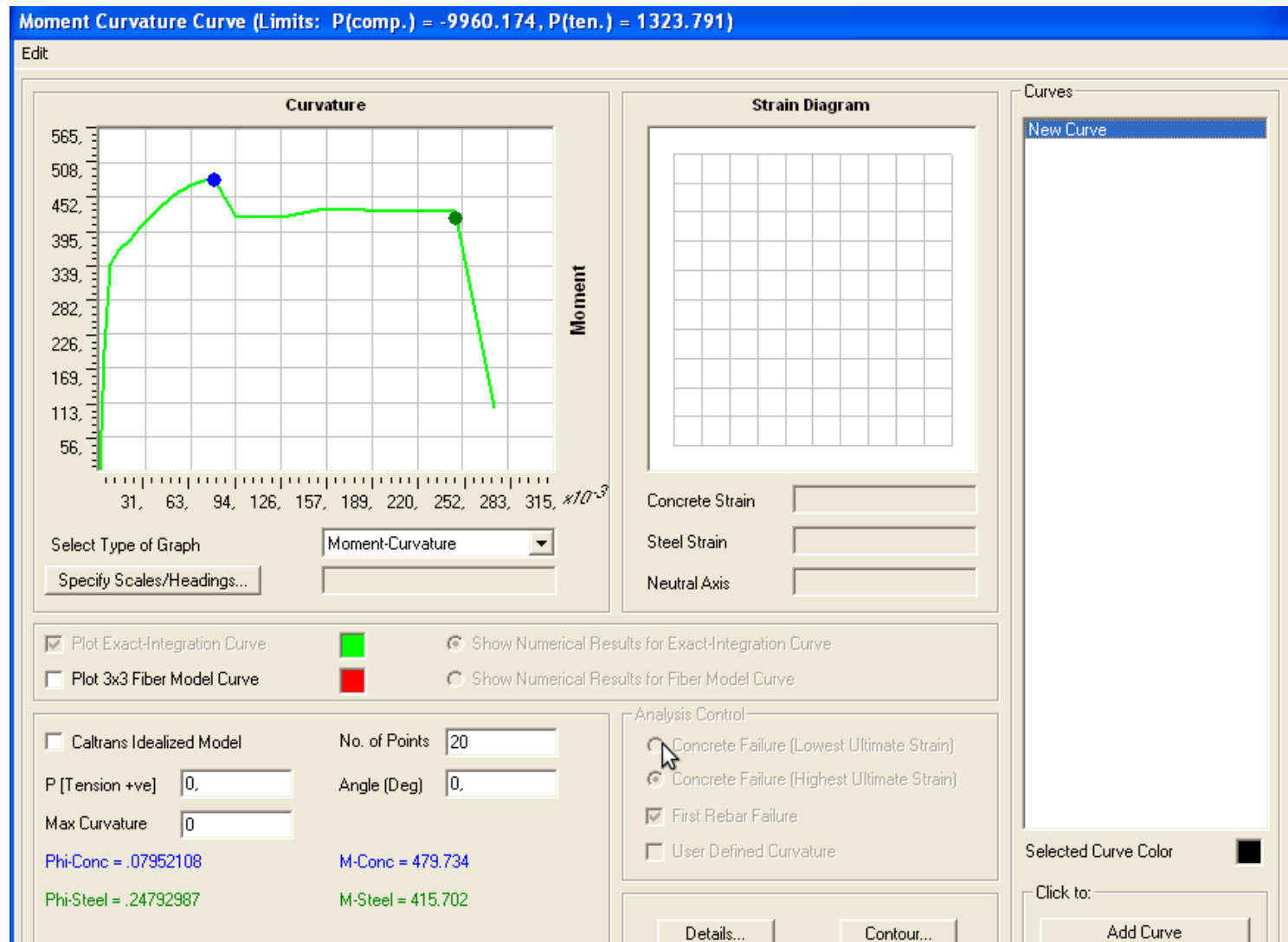
Dibuja una  
seccion

Armadura



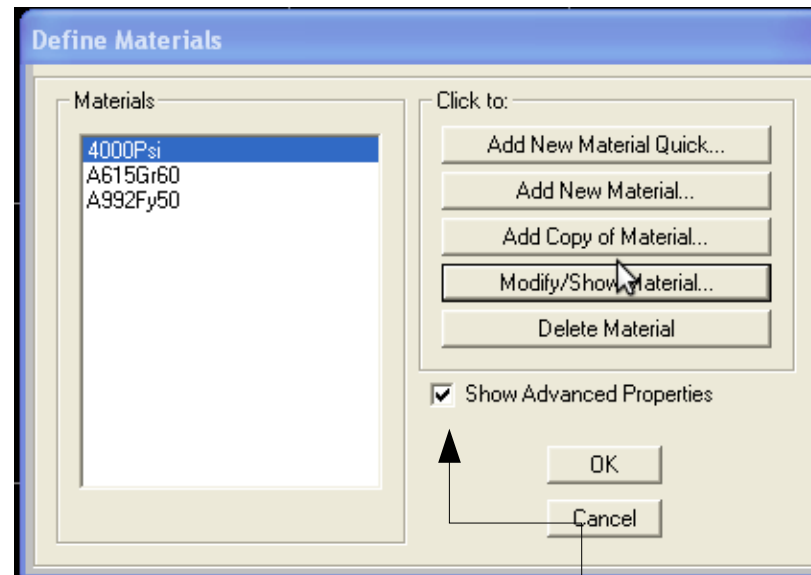
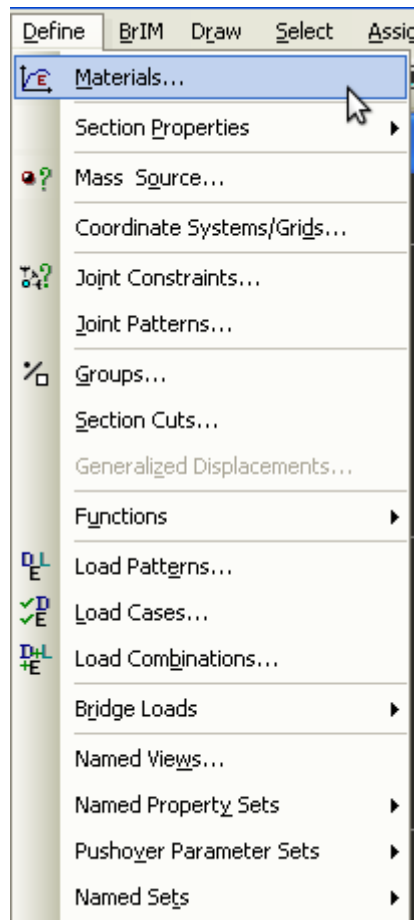
Siempre uno se recuerda cuando ya es tarde

# Voilà Diagramas Momento Curvatura



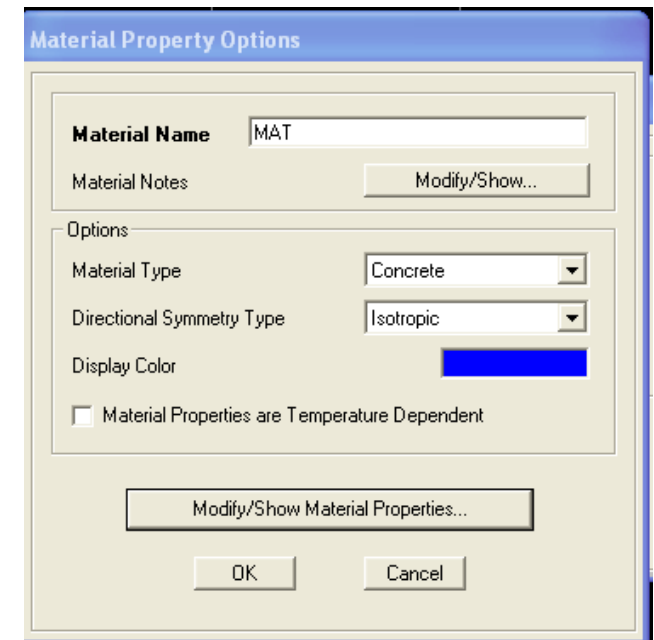
# Definir curvas materiales

## 1) Define - Materials      2) Add New Material ...

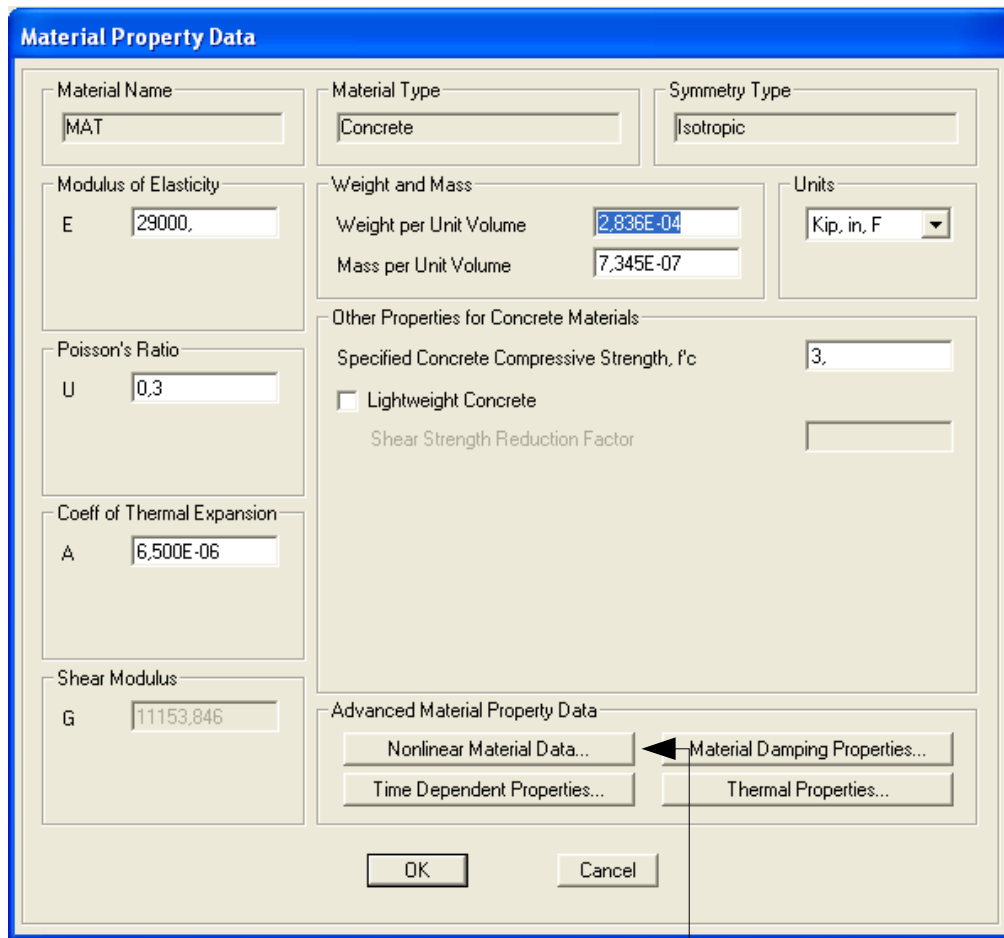


Seleccionen esto!

3) Definan nombre, tipo material etc.  
y click en **Modify/Show Material Properties..**



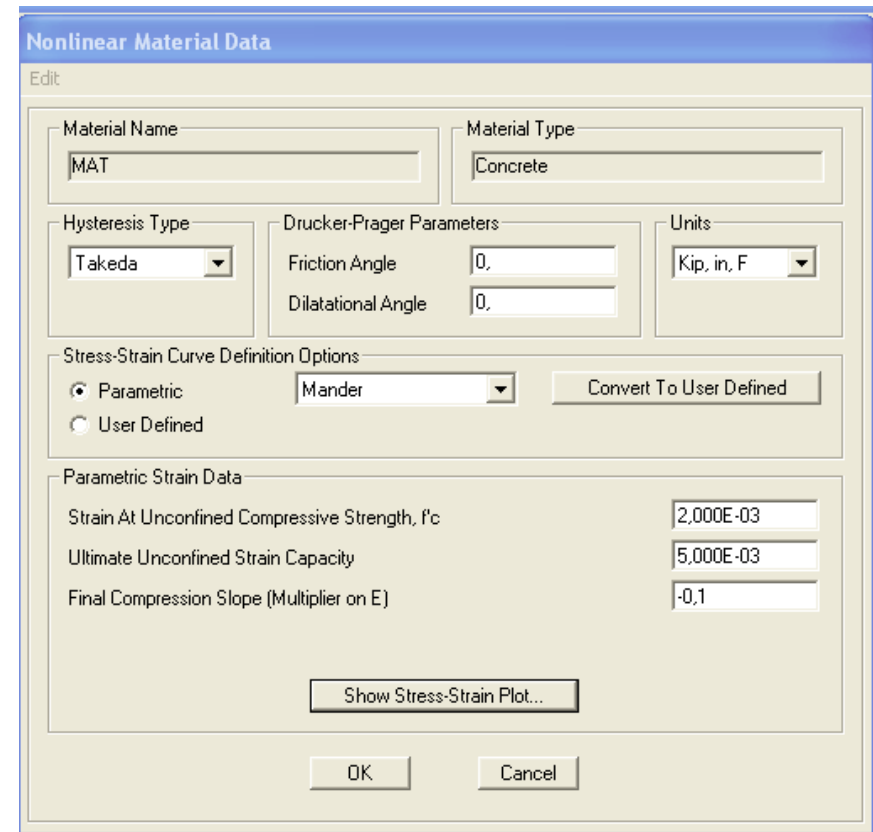
Maravilla de maravillas.. todas las propiedades



The 'Material Property Data' dialog box is used for defining material properties. It includes fields for Material Name (MAT), Material Type (Concrete), and Symmetry Type (Isotropic). It also has sections for Modulus of Elasticity (E = 29000), Poisson's Ratio (U = 0.3), Coeff of Thermal Expansion (A = 6.500E-06), and Shear Modulus (G = 11153.846). The Weight and Mass section includes Weight per Unit Volume (2.836E-04) and Mass per Unit Volume (7.345E-07). The Other Properties for Concrete Materials section includes Specified Concrete Compressive Strength (f'c = 3) and a checkbox for Lightweight Concrete. The Advanced Material Property Data section includes buttons for Nonlinear Material Data..., Material Damping Properties..., Time Dependent Properties..., and Thermal Properties....

Nonlinear Material Data

Y aquí esta todo.. modelos graficos etc



The 'Nonlinear Material Data' dialog box is used for defining nonlinear material properties. It includes fields for Material Name (MAT) and Material Type (Concrete). It also has sections for Hysteresis Type (Takeda), Drucker-Prager Parameters (Friction Angle = 0, Dilatational Angle = 0), and Stress-Strain Curve Definition Options (Parametric, Mander). The Parametric Strain Data section includes Strain At Unconfined Compressive Strength (f'c = 2.000E-03), Ultimate Unconfined Strain Capacity (5.000E-03), and Final Compression Slope (Multiplier on E) (-0.1). The dialog box also includes a 'Show Stress-Strain Plot...' button and 'OK' and 'Cancel' buttons.

Super entretenido!!!