◪ **Ftool**

Tutorial for creation and analysis of a simple frame and result visualization

Version 4.01
Jane 2024
http://www.ftool.com.br

This tutorial:
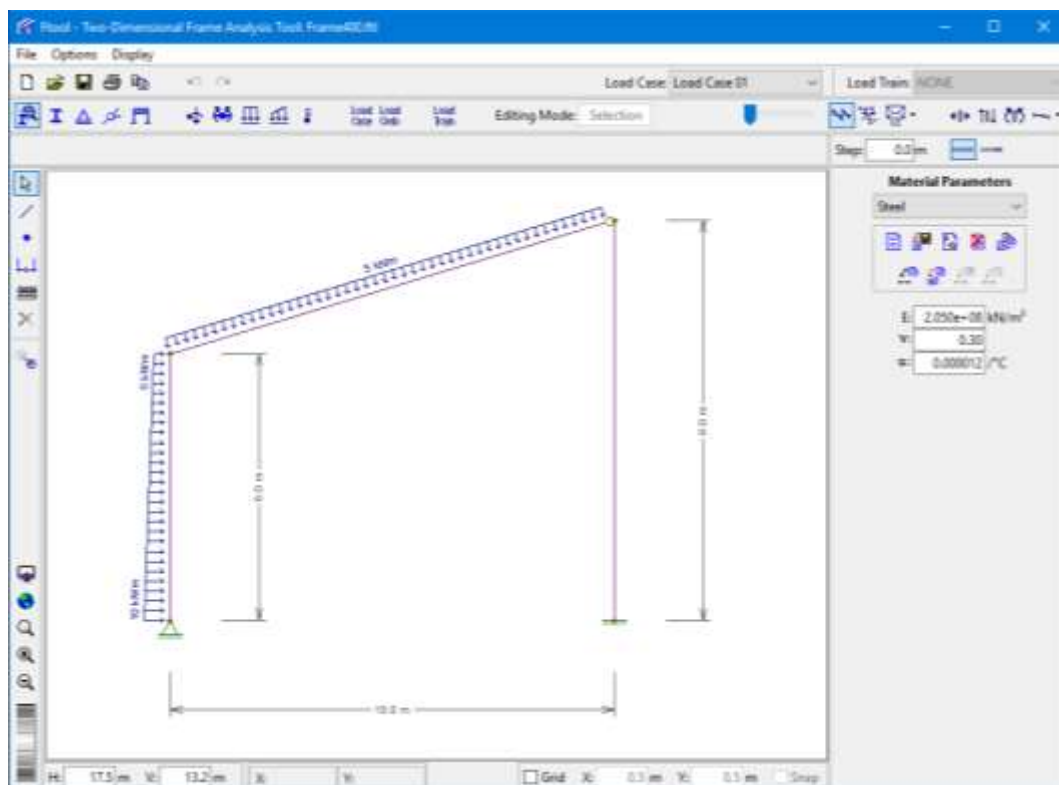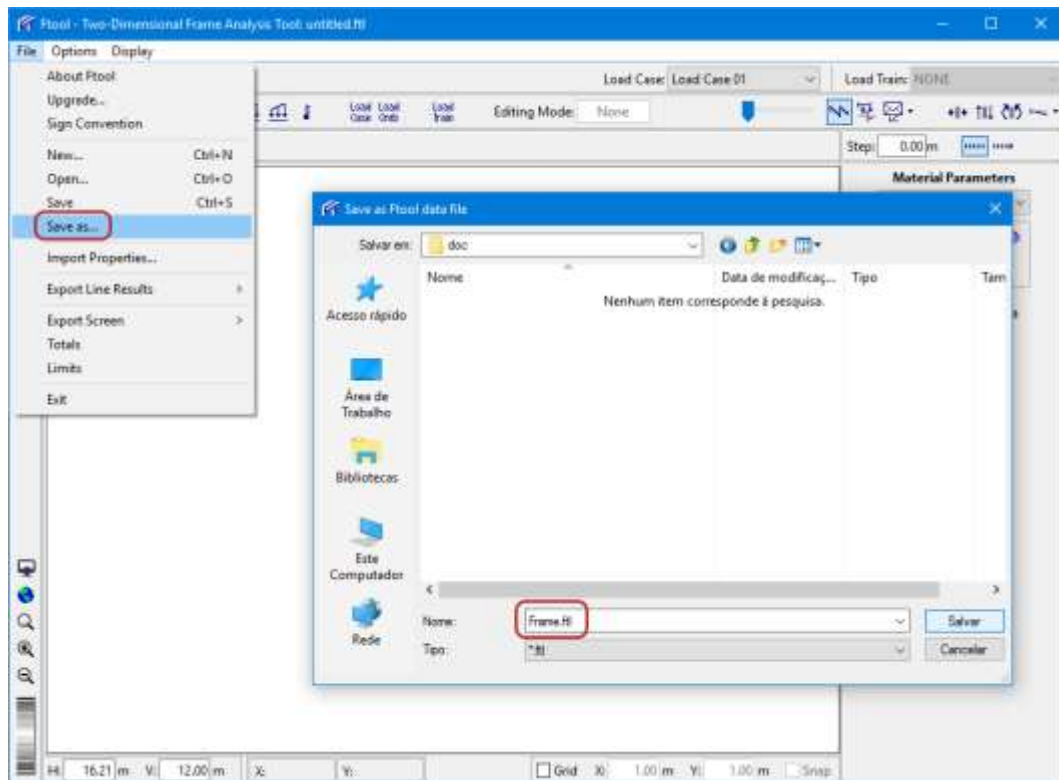https://www.tecgraf.puc-rio.br/ftool/downloads/tutorialframe.zip
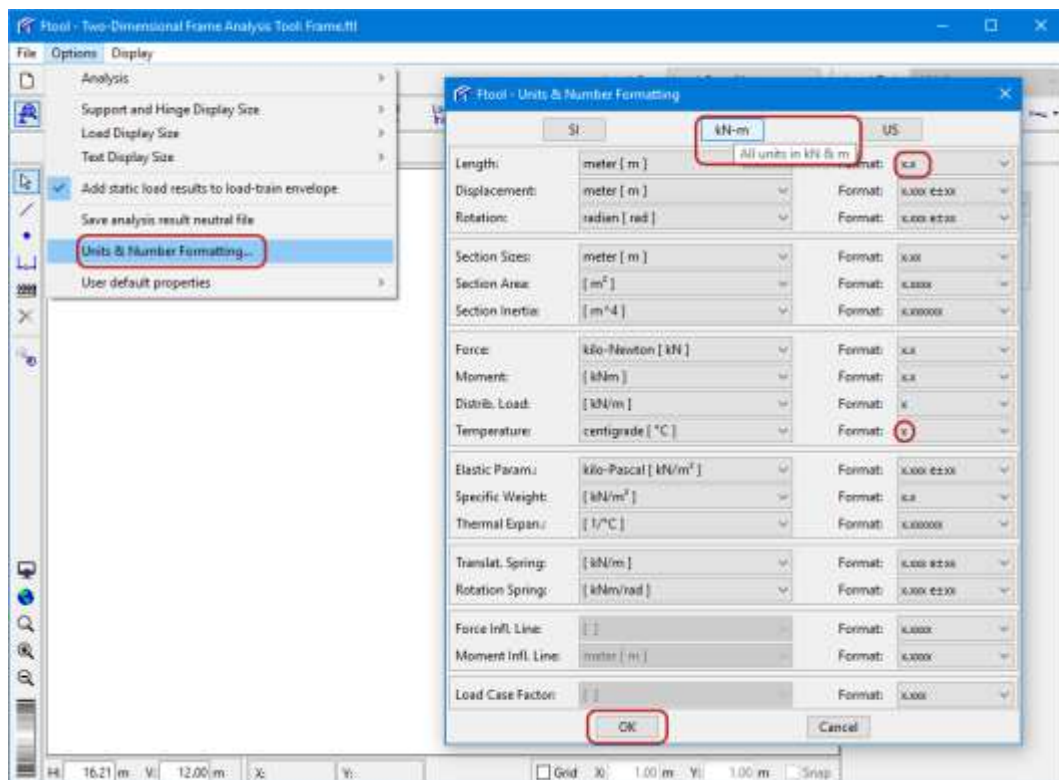
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Create a file for plane frame model (command "Save as... ")

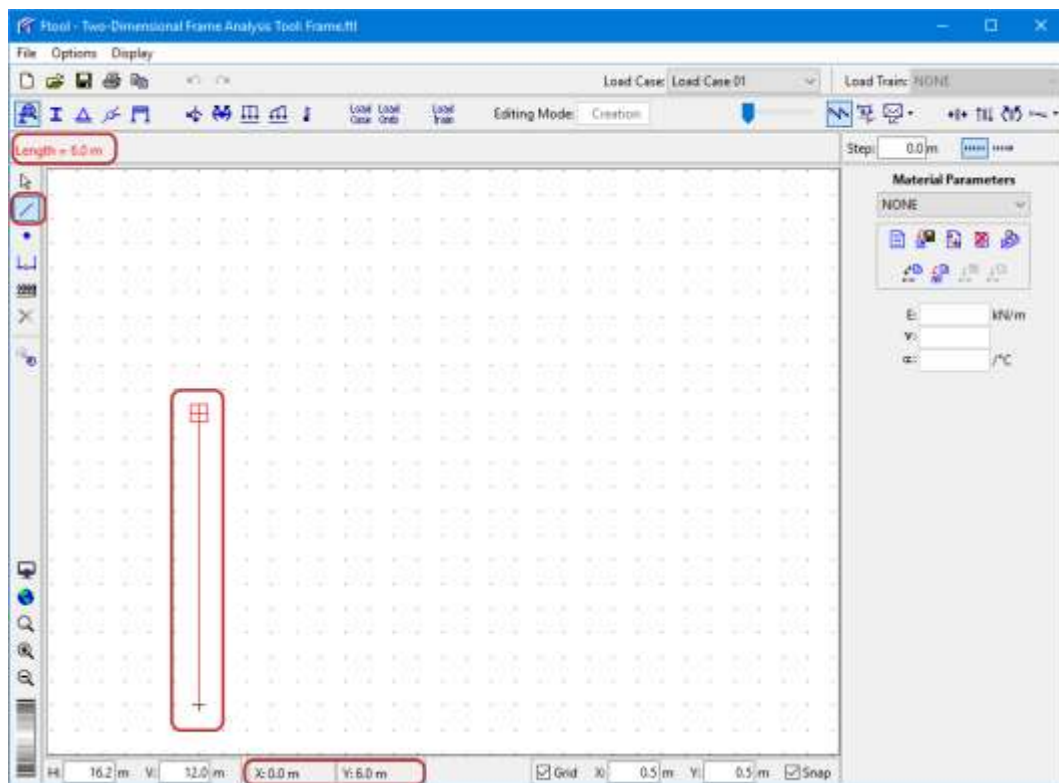

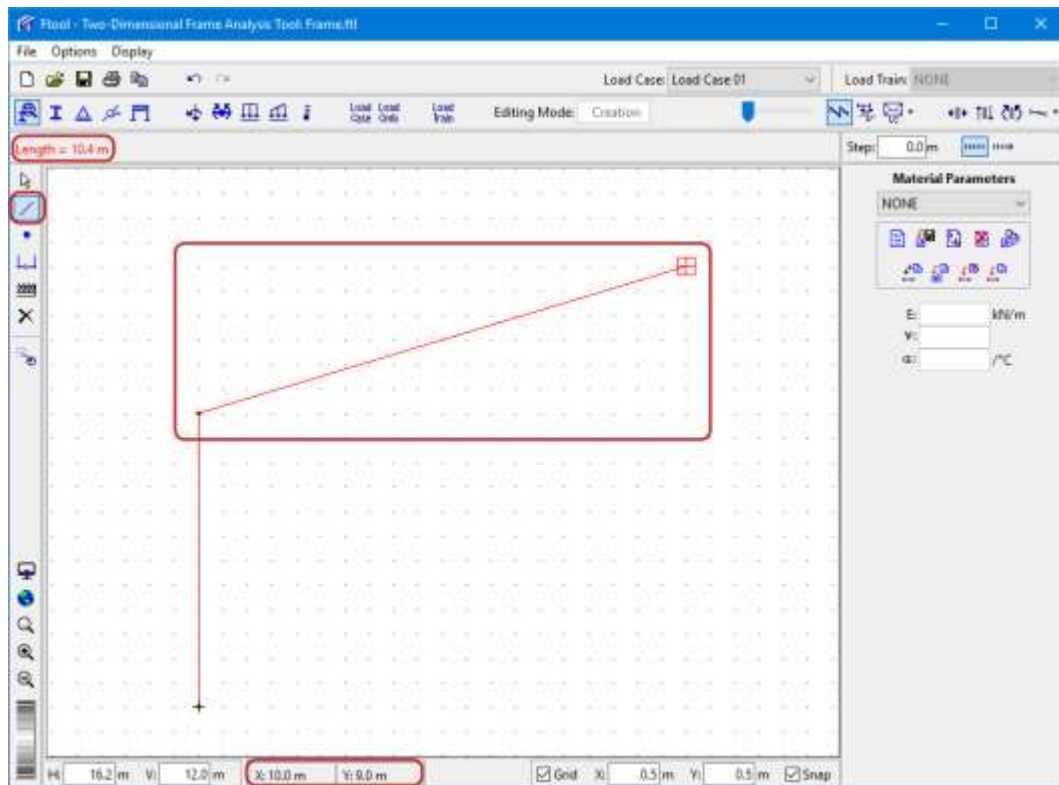## Specification of units and number formatting

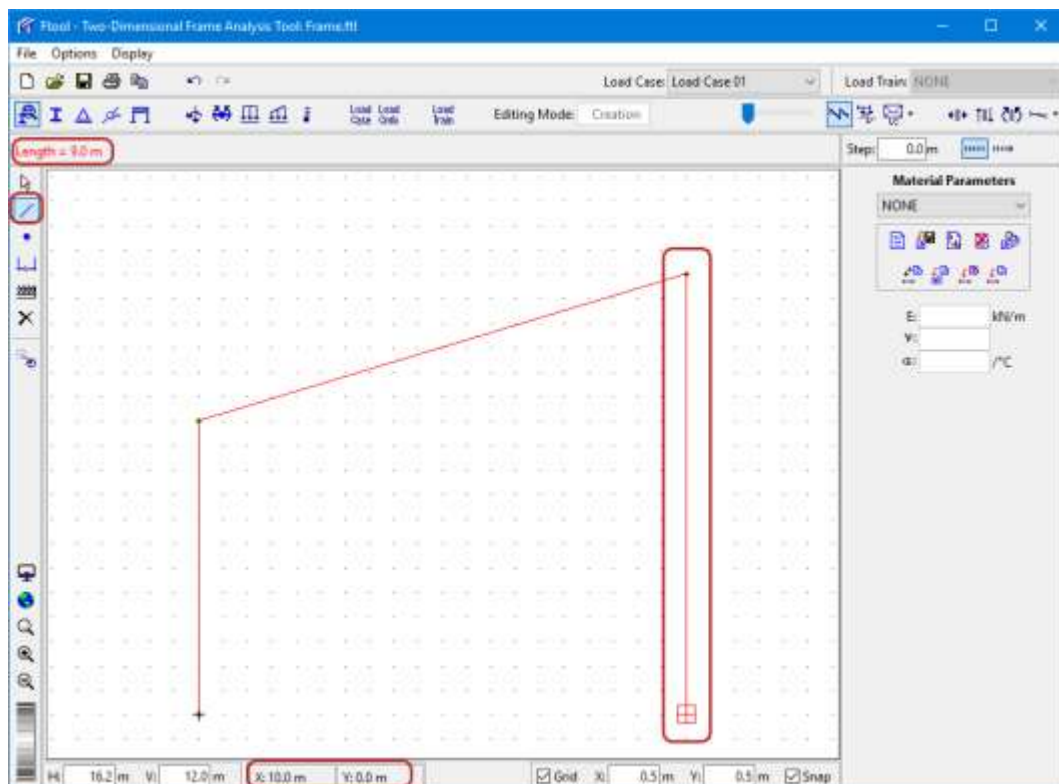## Grid of coordinates and grid point spacing with attraction (*snap*)

Insertion of first member
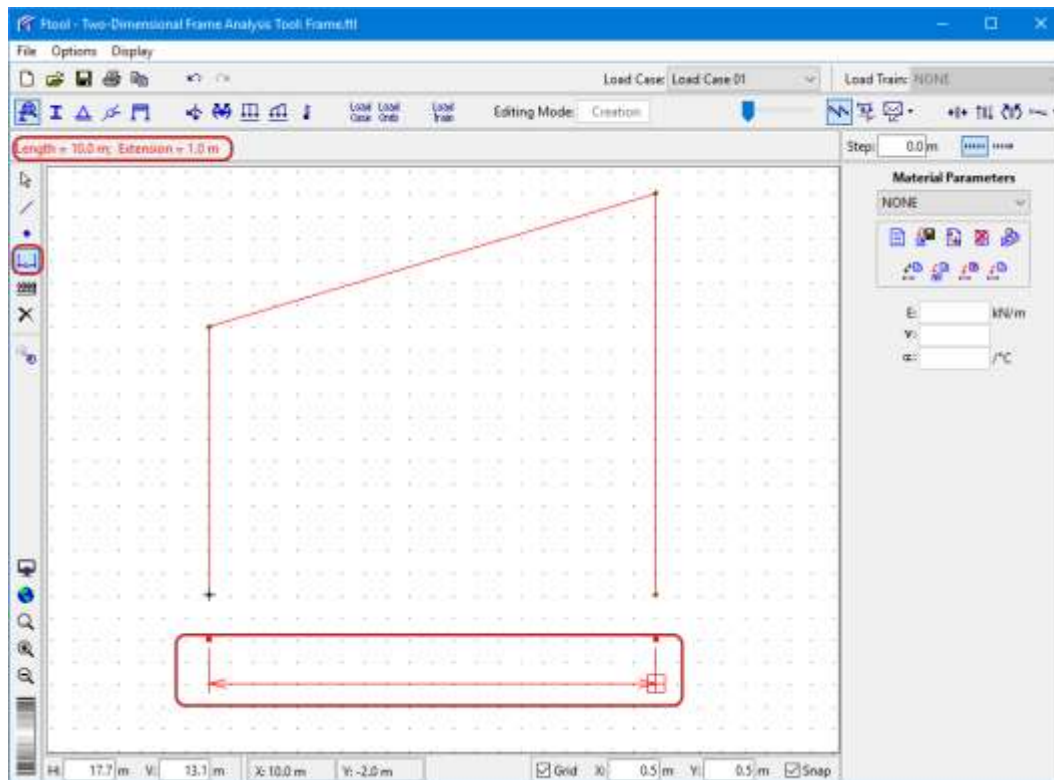
Insertion of second member
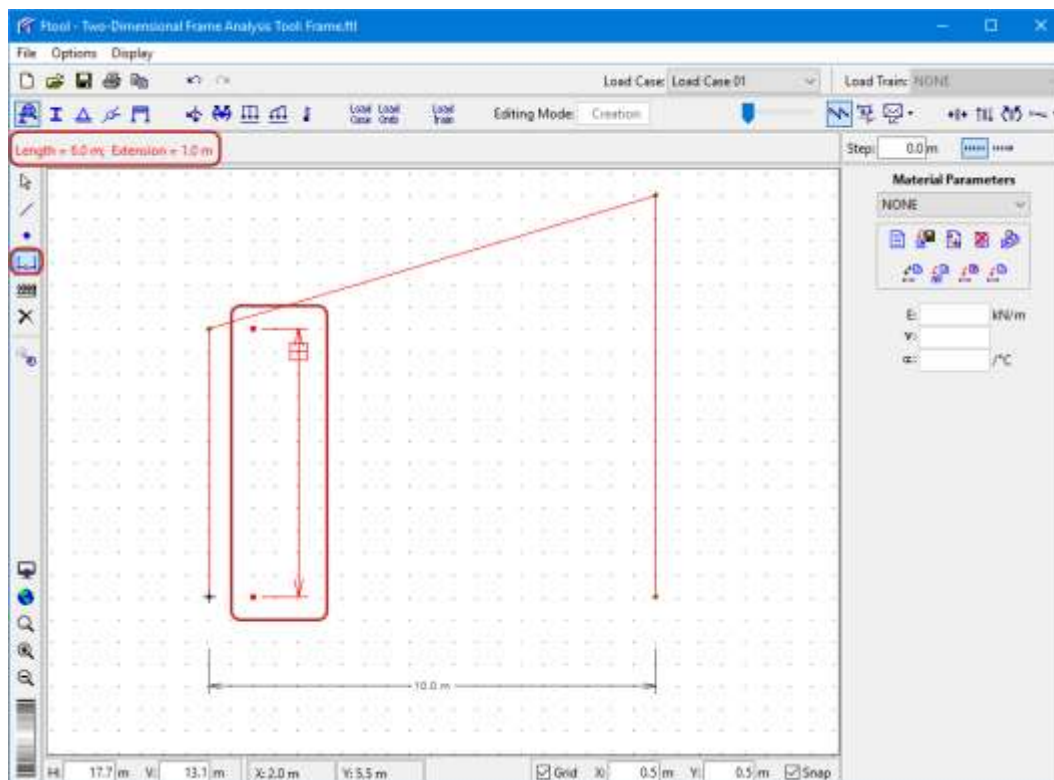

Insertion of third member

Insertion of horizontal dimension line
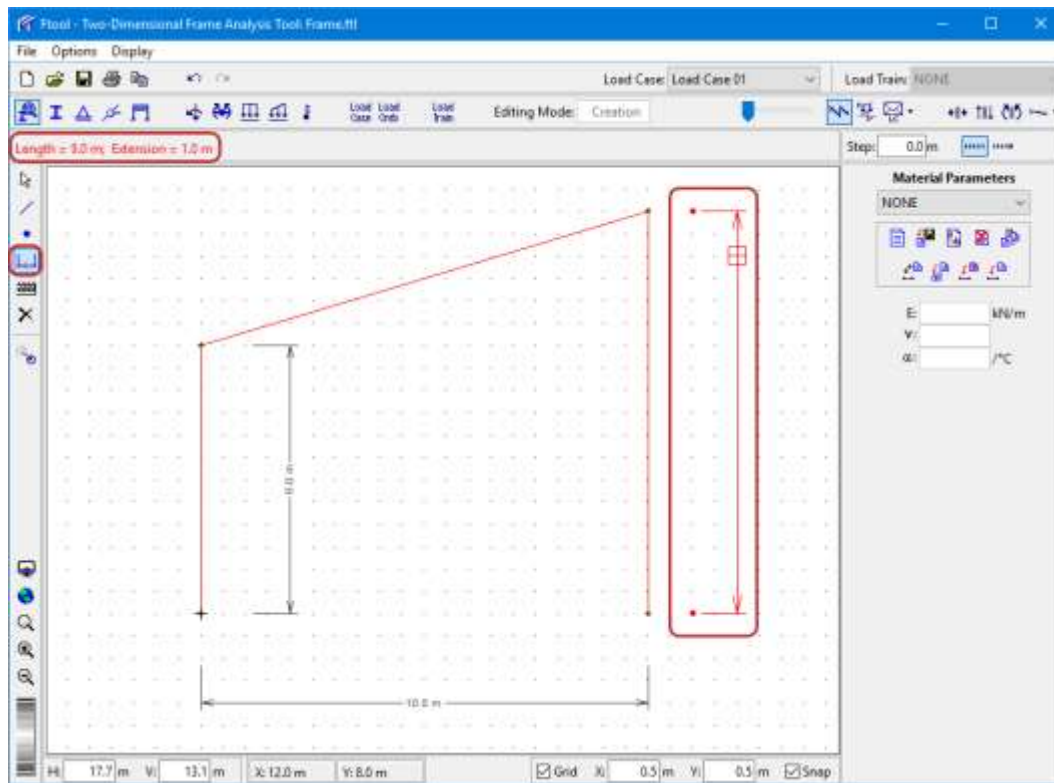

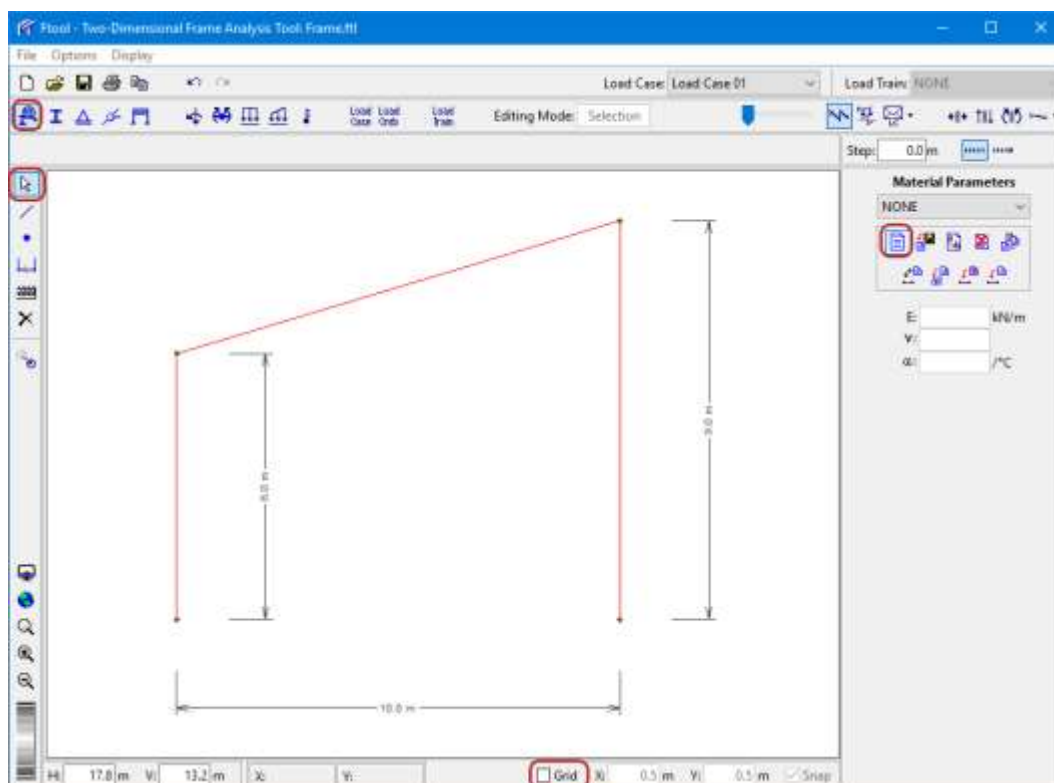## Insertion of left vertical dimension line

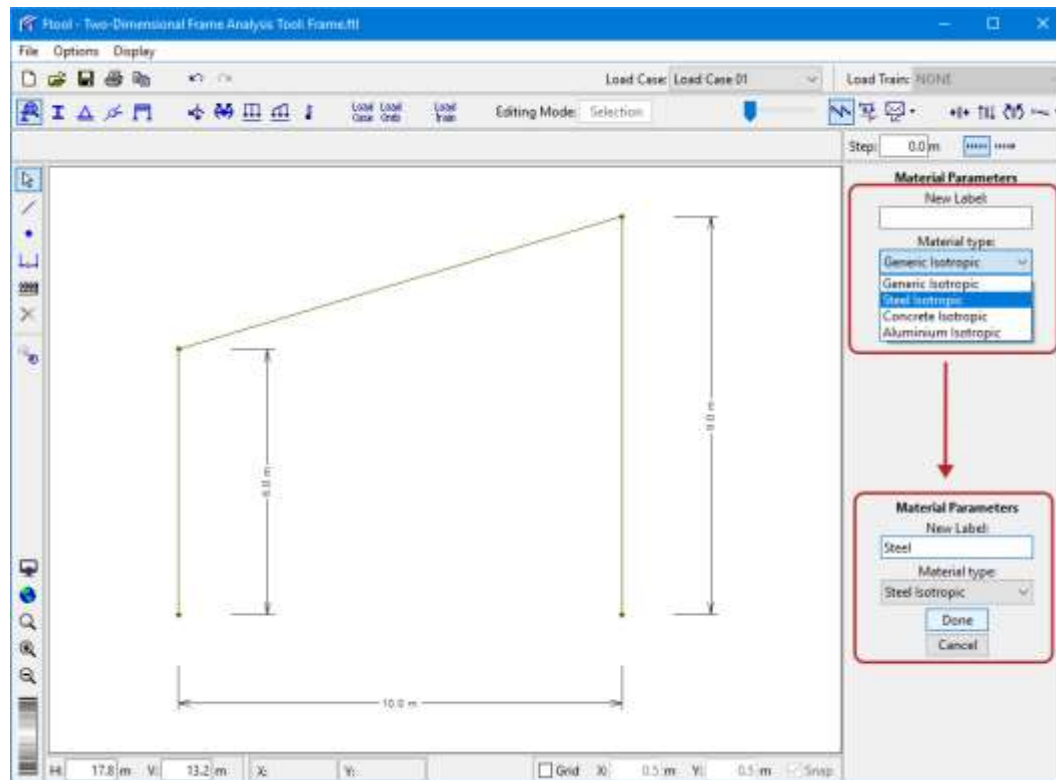## Insertion of right vertical dimension line
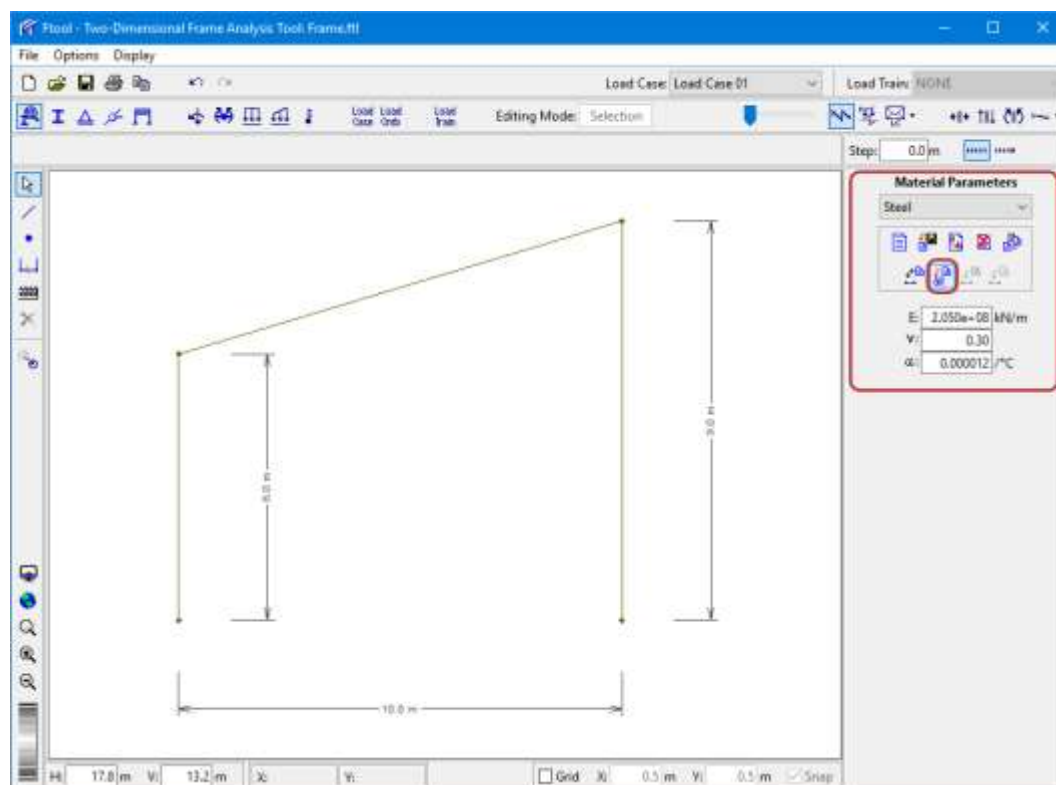

Creation of new material
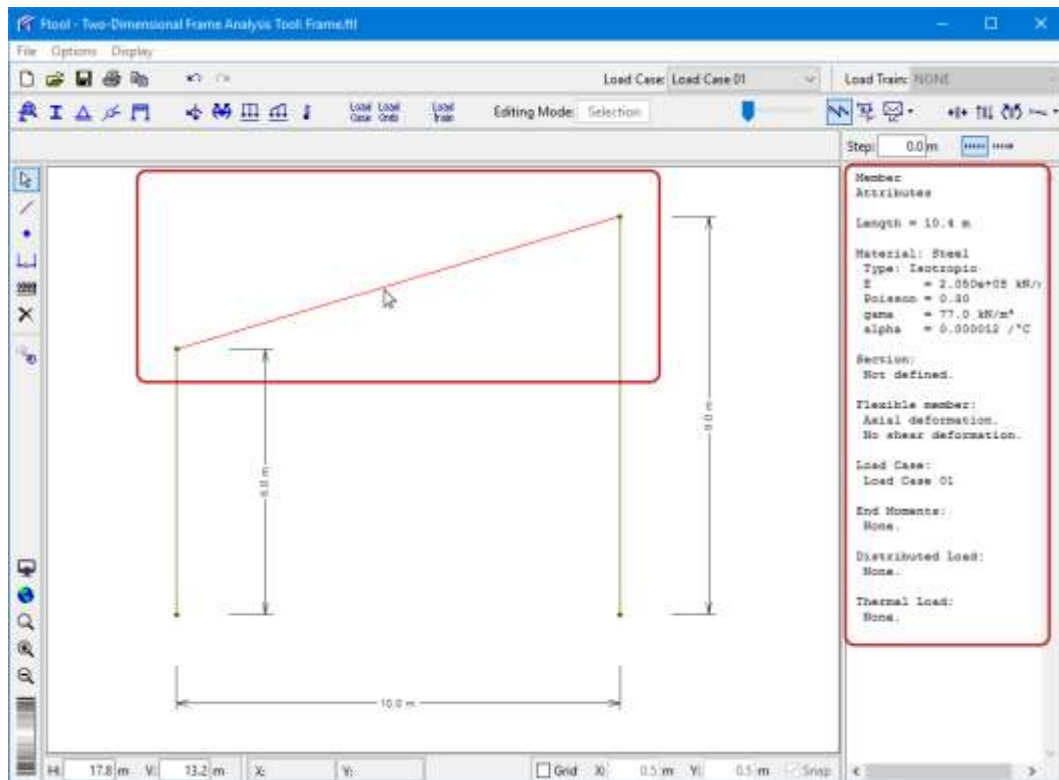
Selection of material type and name

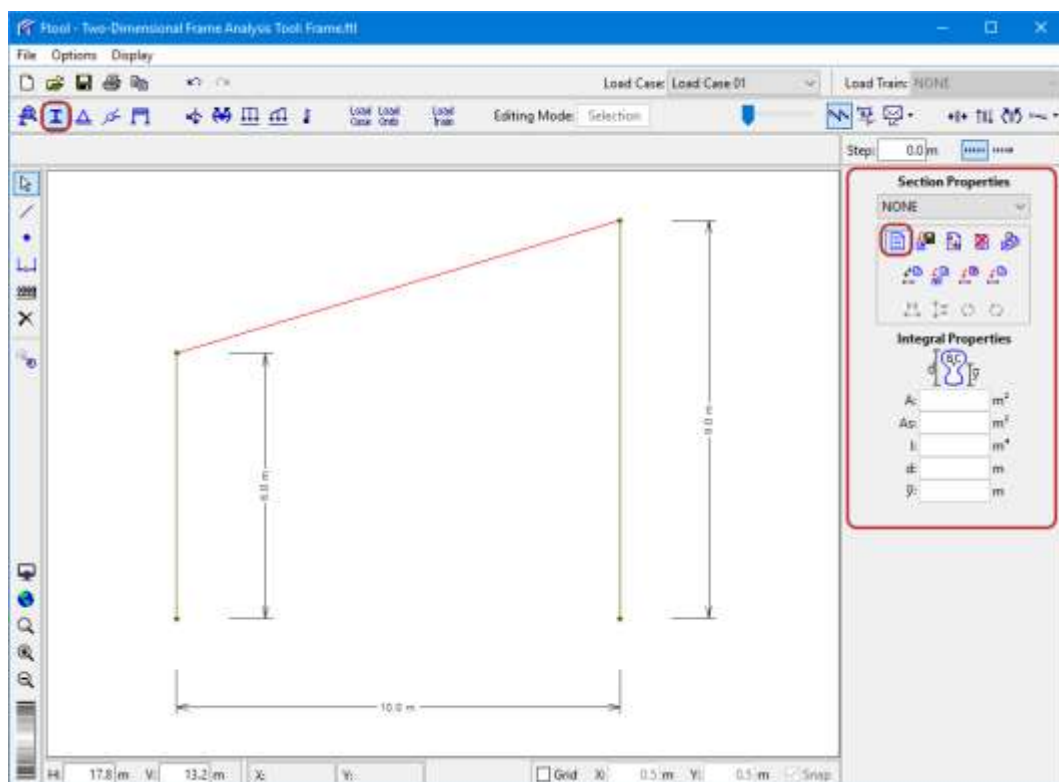## Assignment of created material to all members
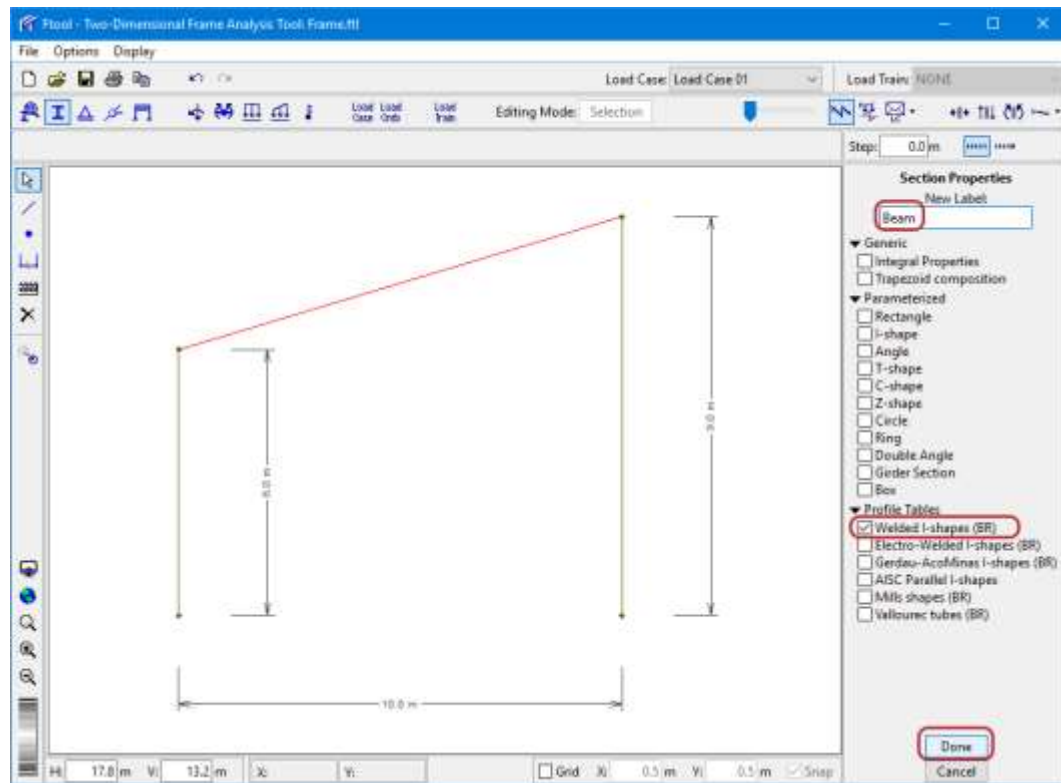
Verification of member parameters and attributes using mouse right button
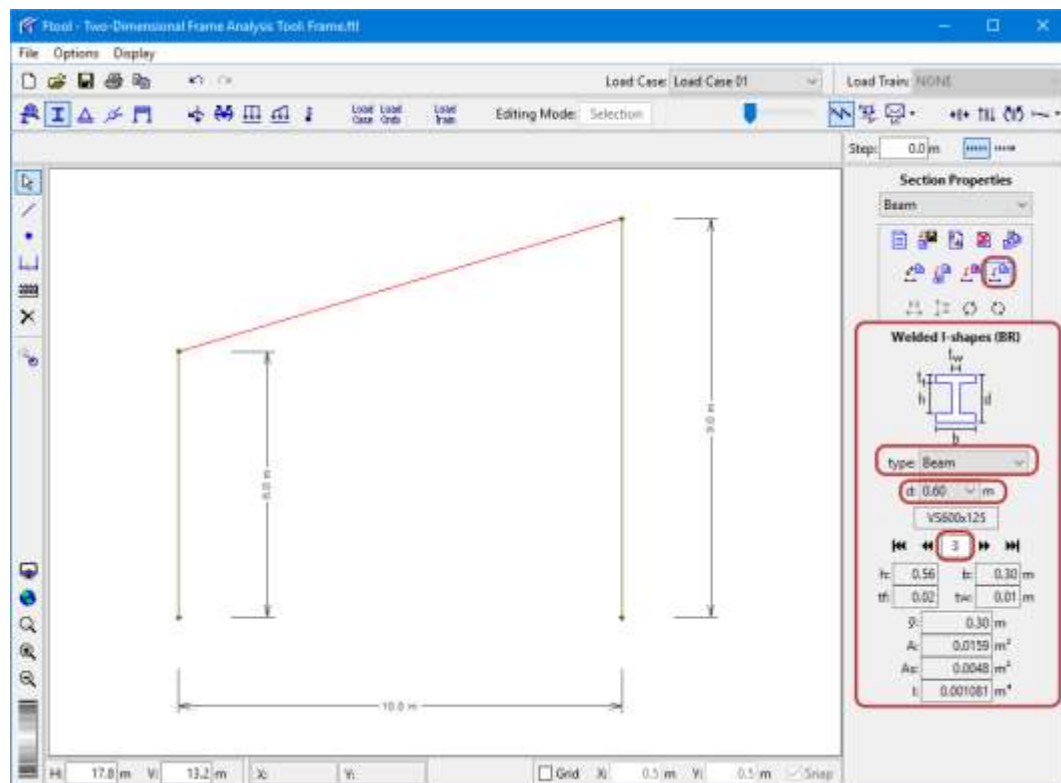

Creation of new cross-section for beam member

Selection of welded I-shape (NBR standard) for beam member
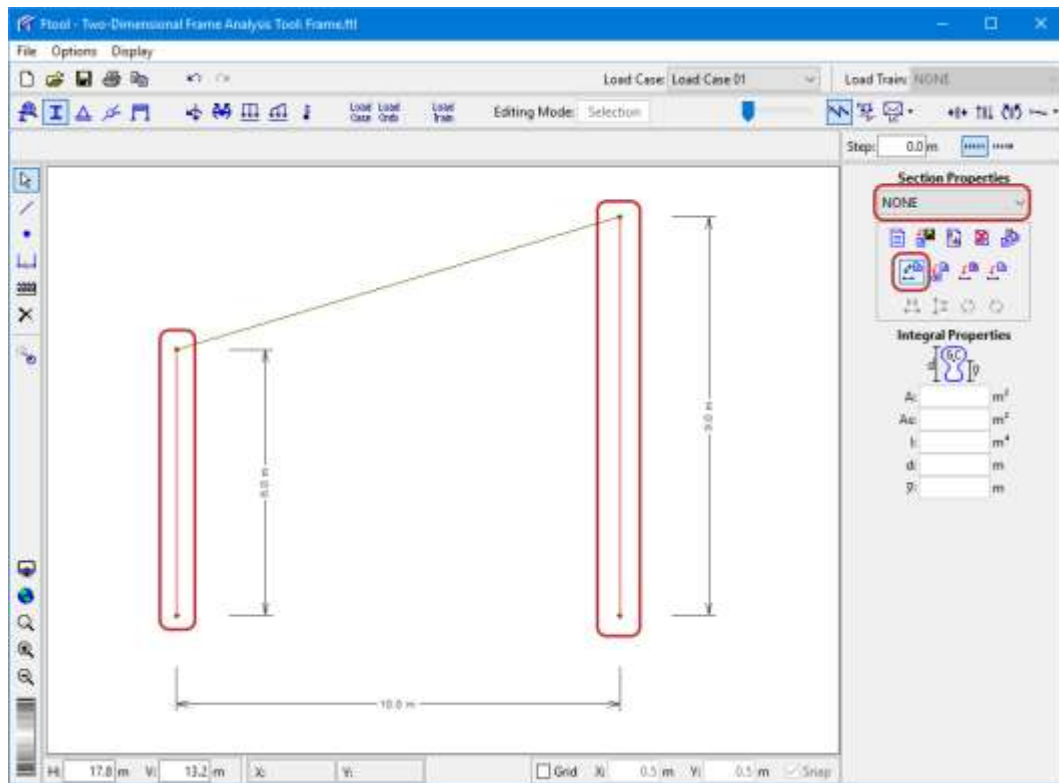

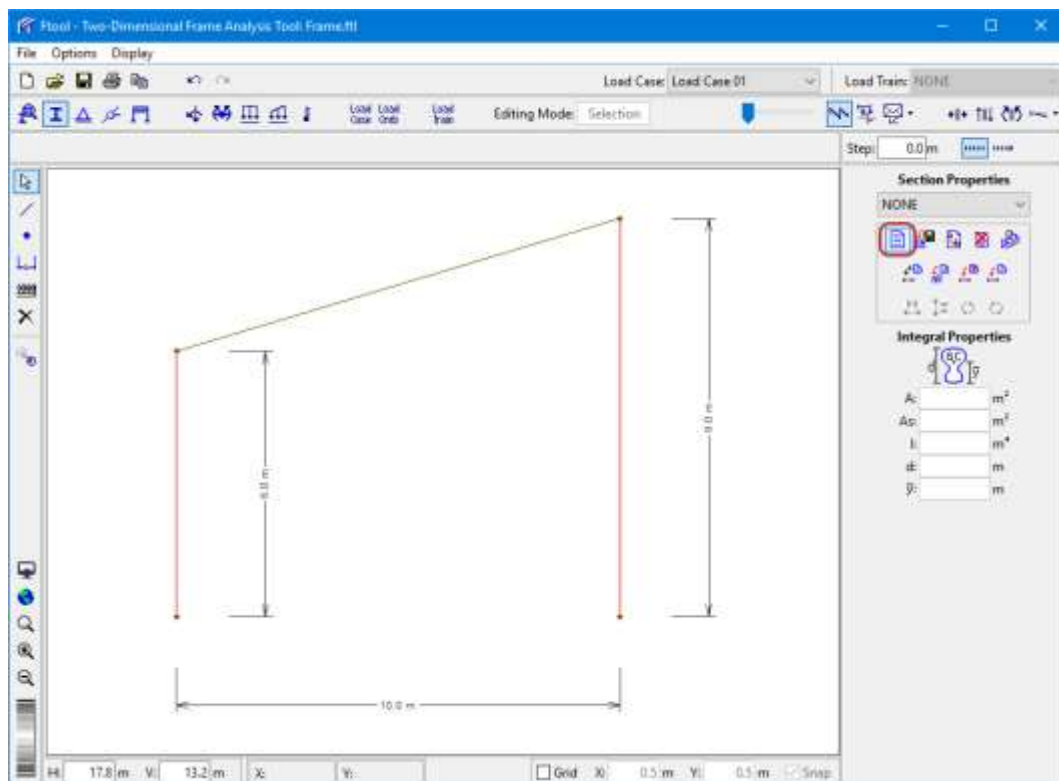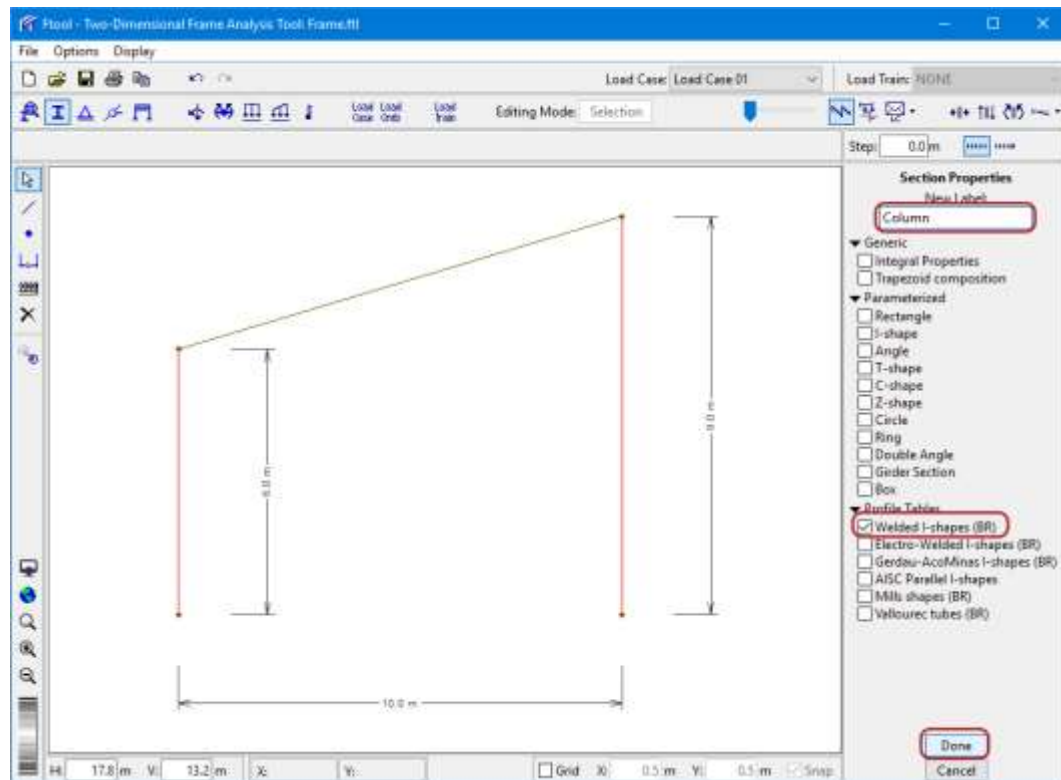## Definition of specific welded I-shape and assignment to beam member

Selection of members by empty cross-section property set (*NONE*)
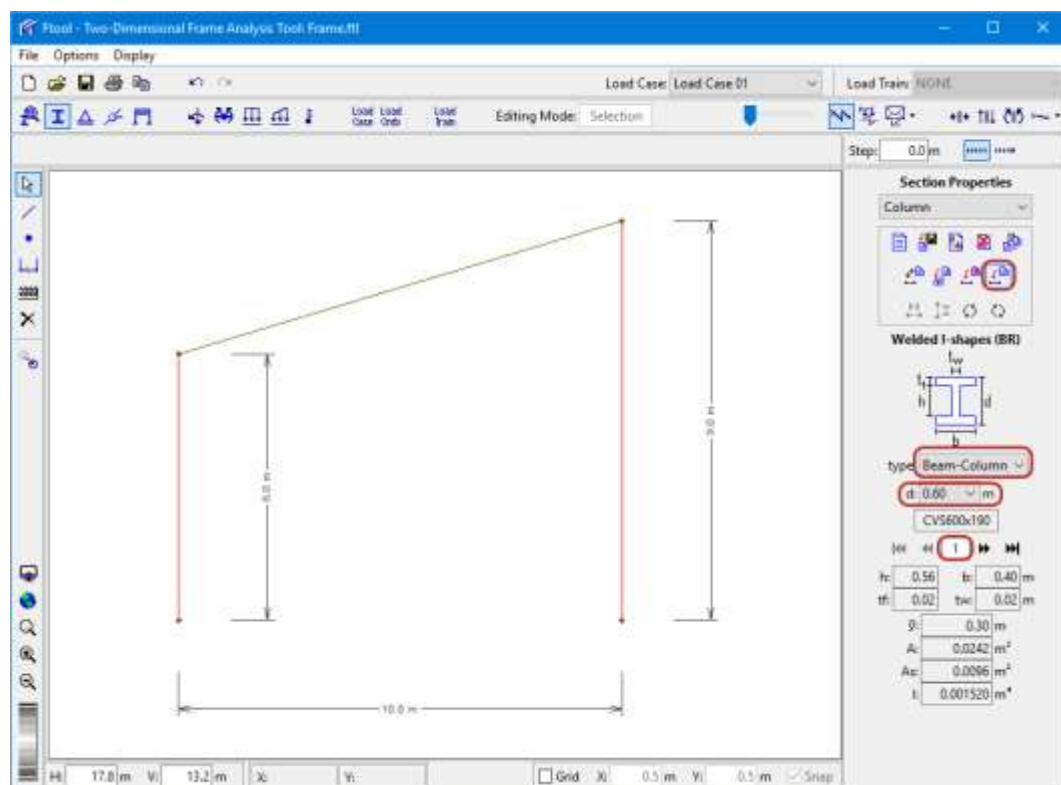

Creation of new cross-section for column members
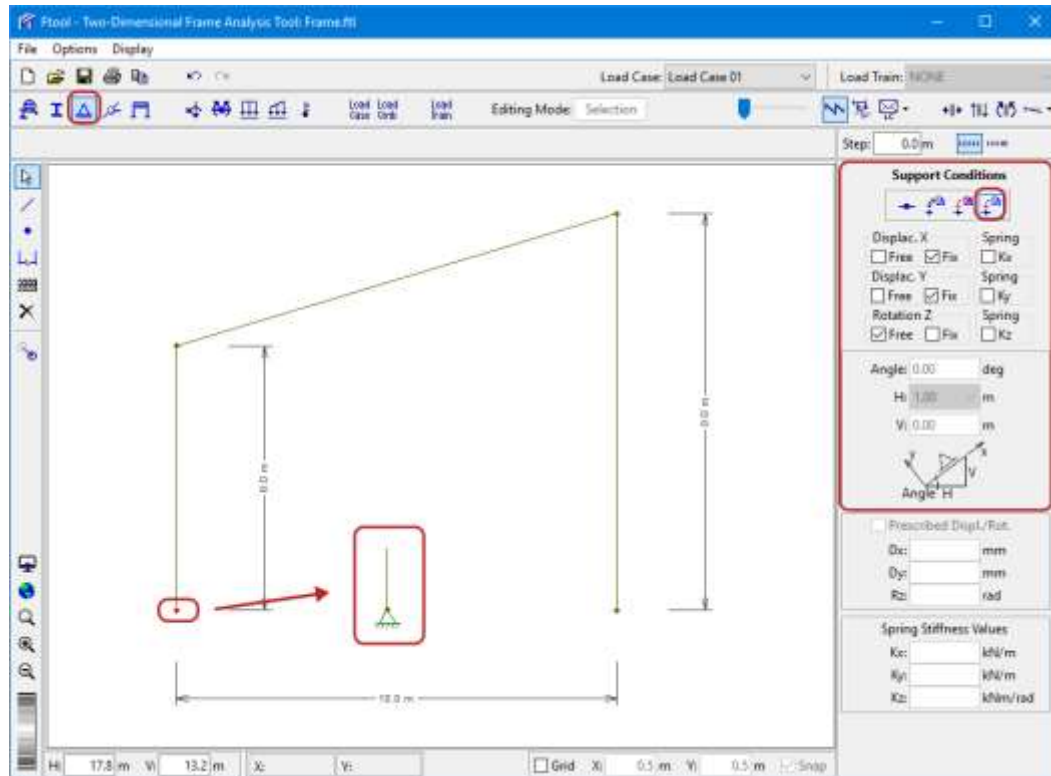
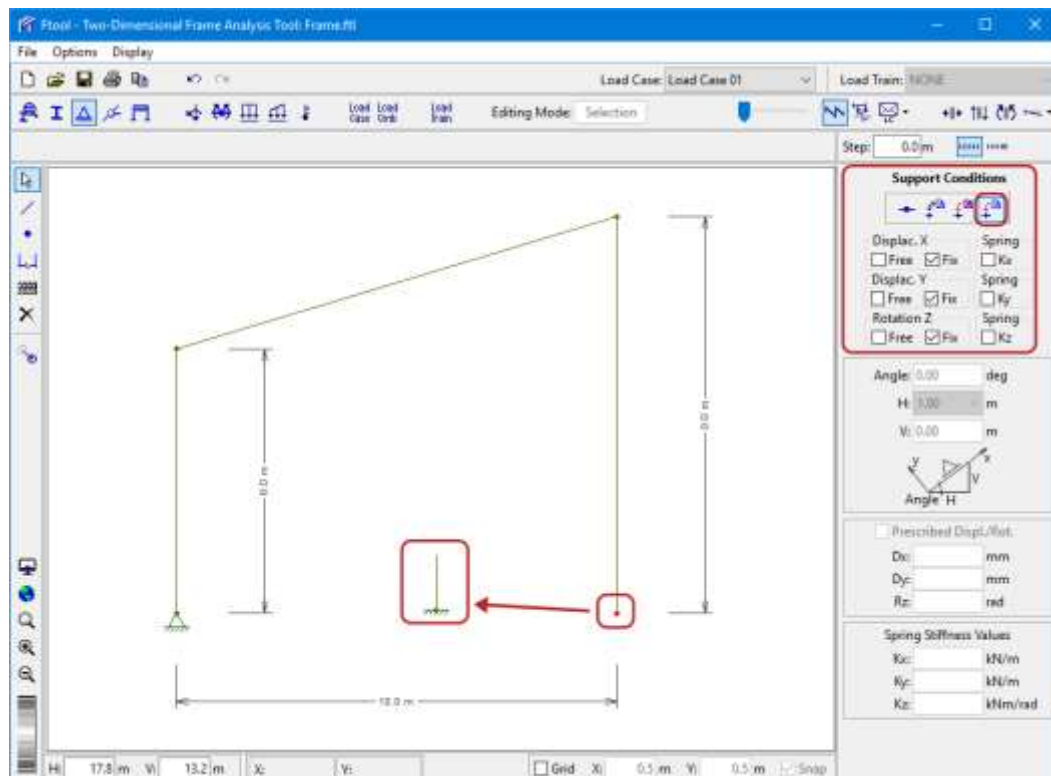## Selection of welded I-shape (NBR standard) for column members

Definition of specific welded I-shape and assignment to column members
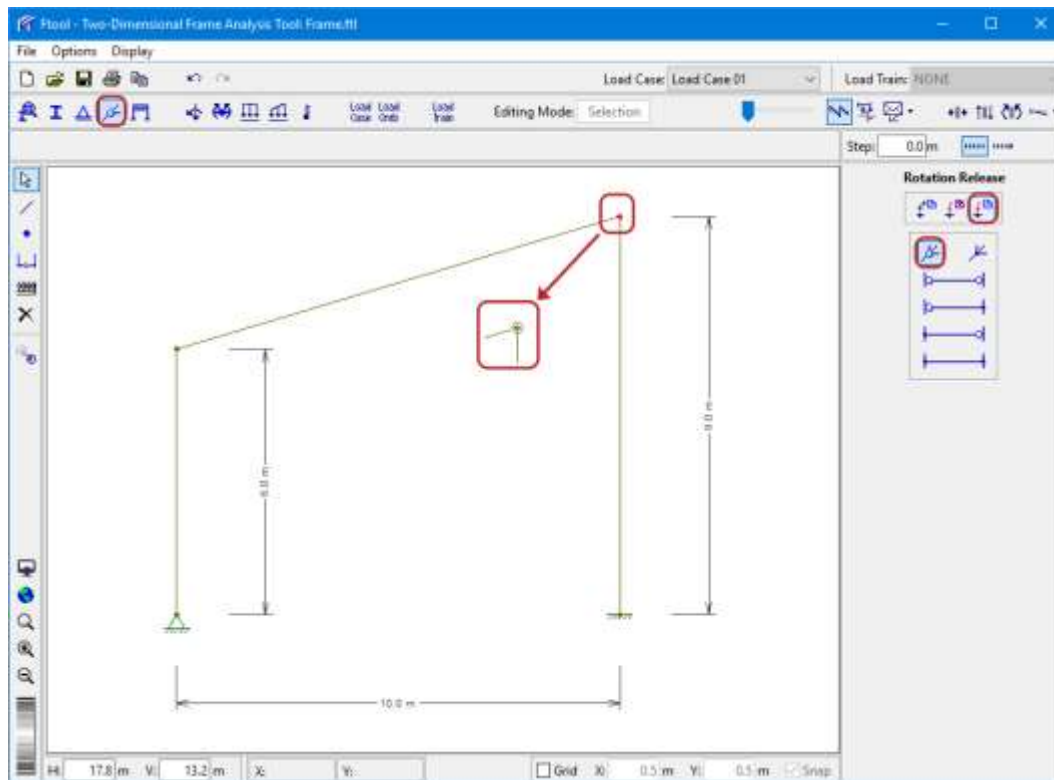
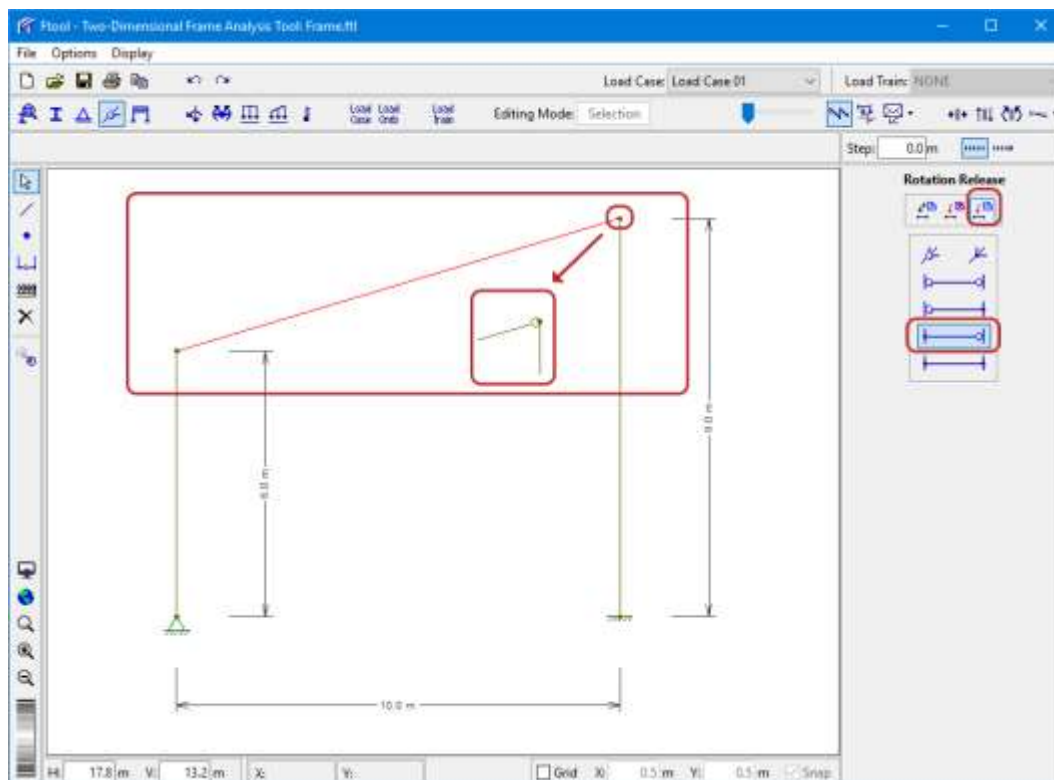## Definition of pin support and assignment to left inferior node

Definition of fixed support and assignment to right inferior node

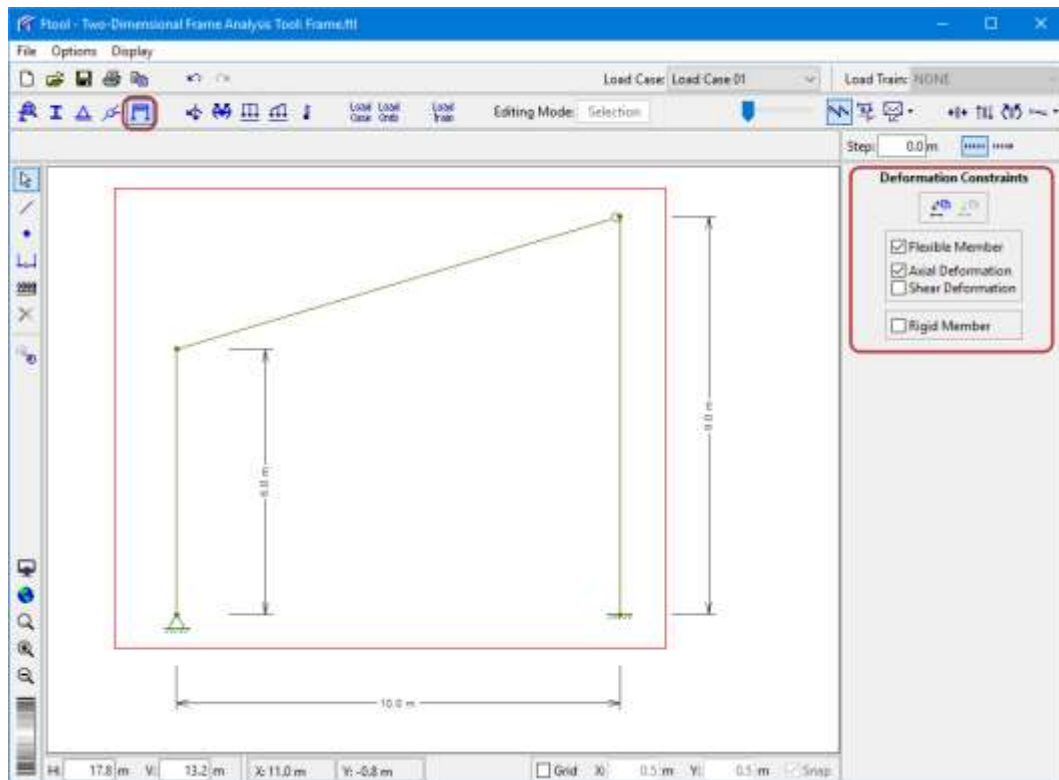## Insertion of a hinge at right top node

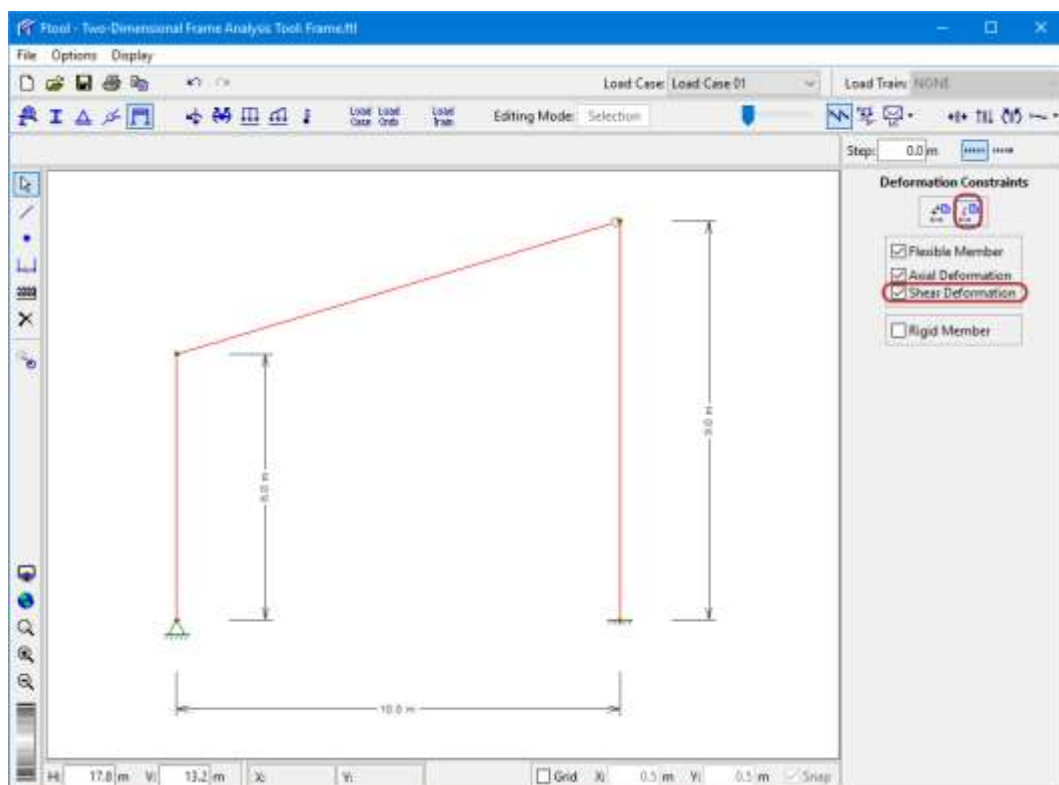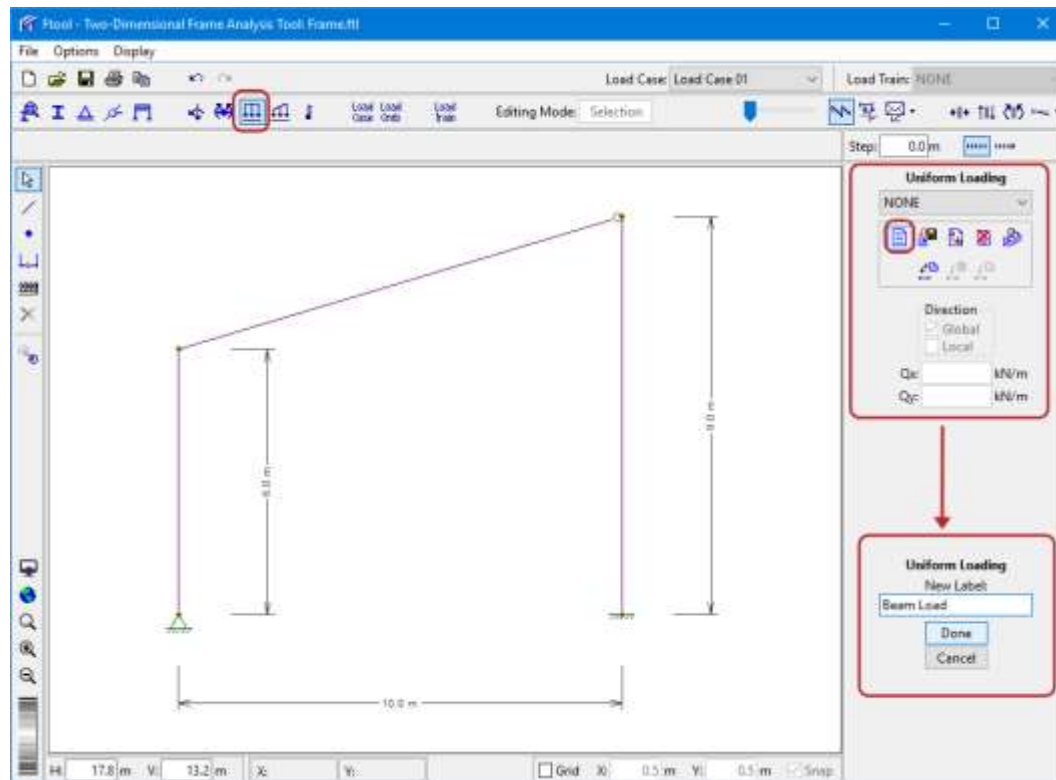## Alternative: insertion of hinge at right end of beam member

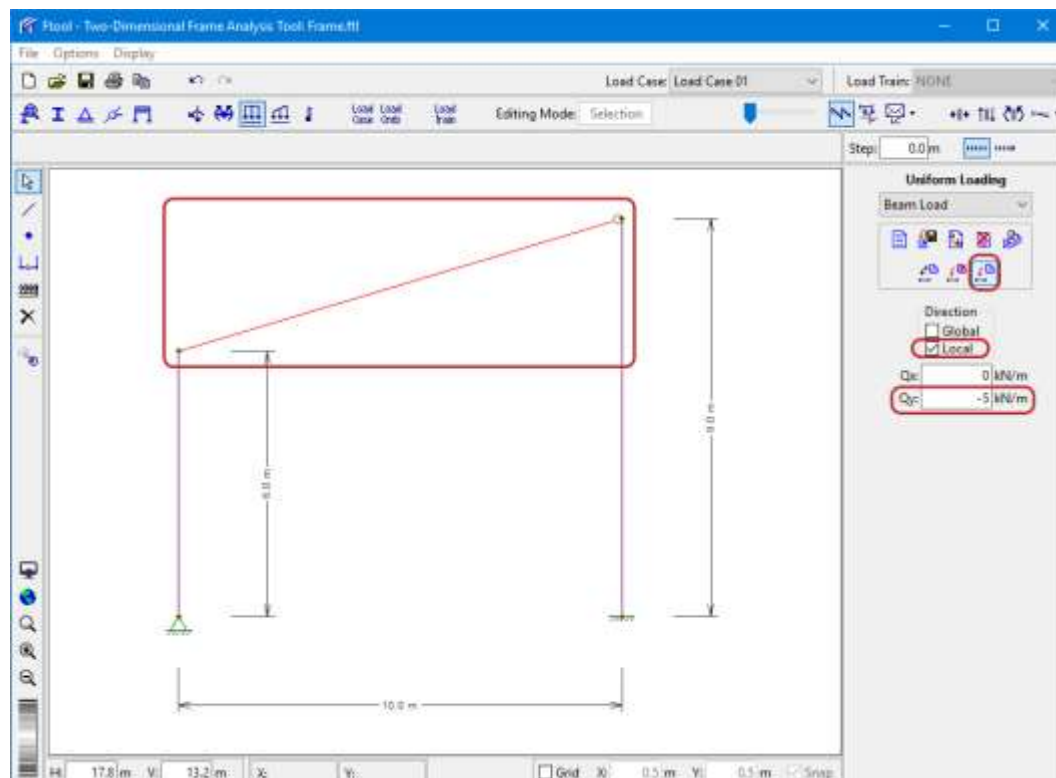## Member deformation constraints menu and fence selection of all members

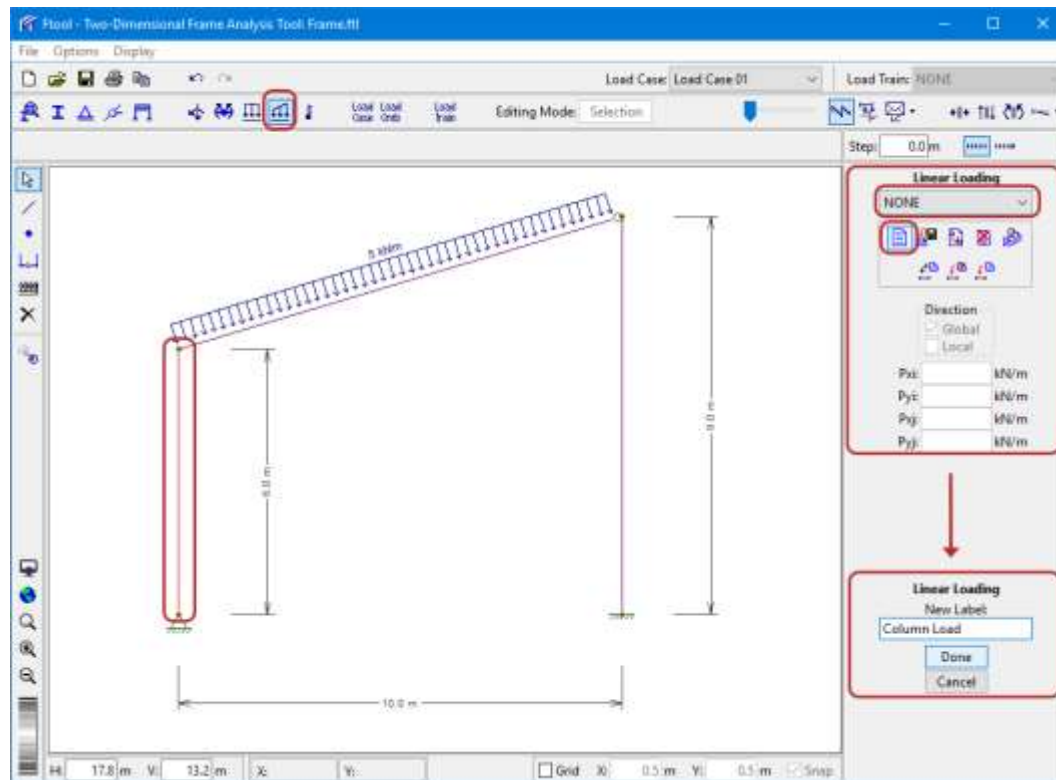## Turn on shear deformation and assignment to selected members

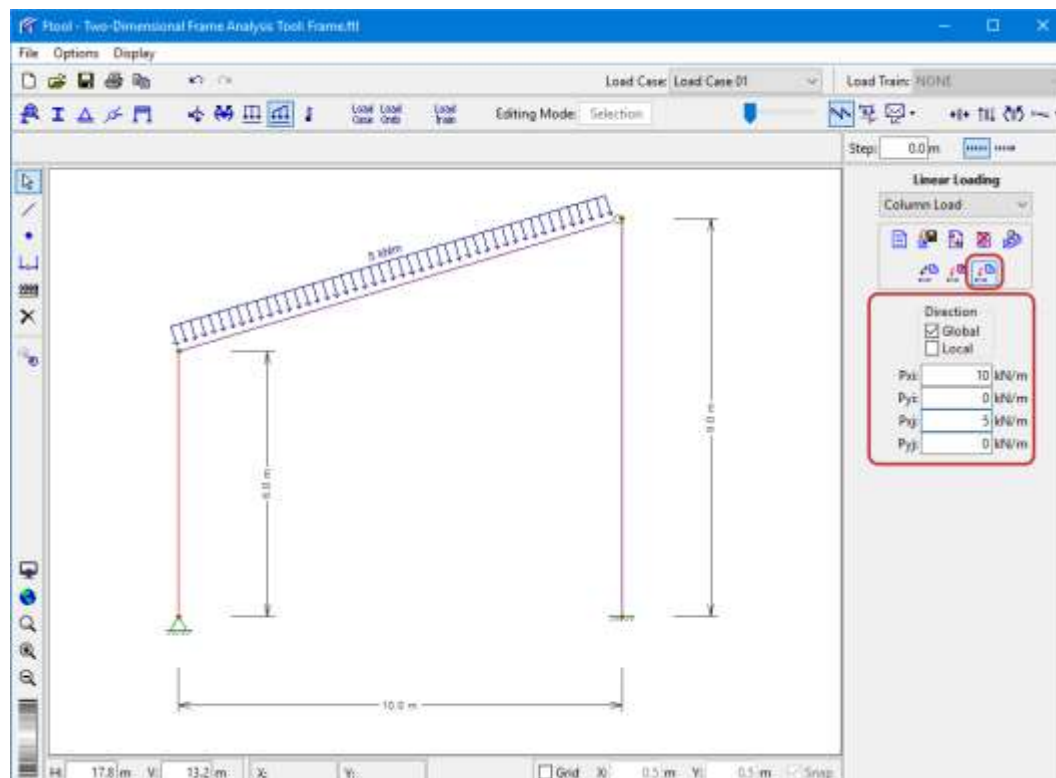## Creation of uniformly distributed force load for beam member

Definition of value of uniformly distributed force load and assignment to beam member in local system

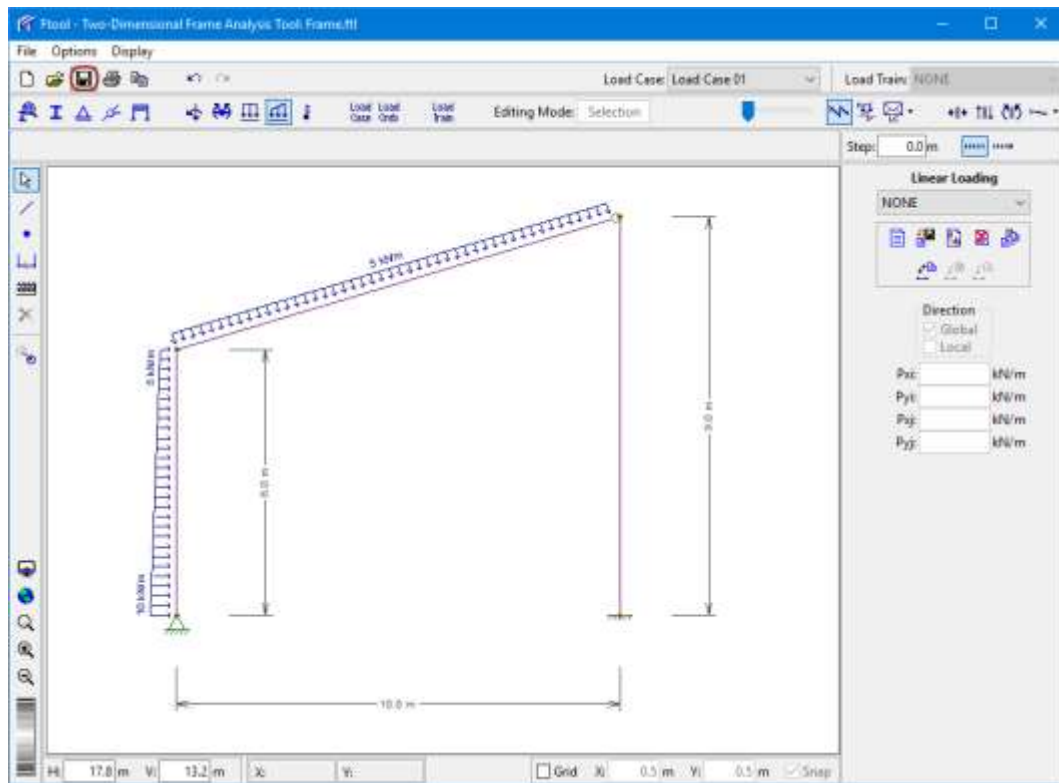## Creation of linearly distributed force load for left column

Definition of values of linearly distributed force load and assignment to right column member in global system
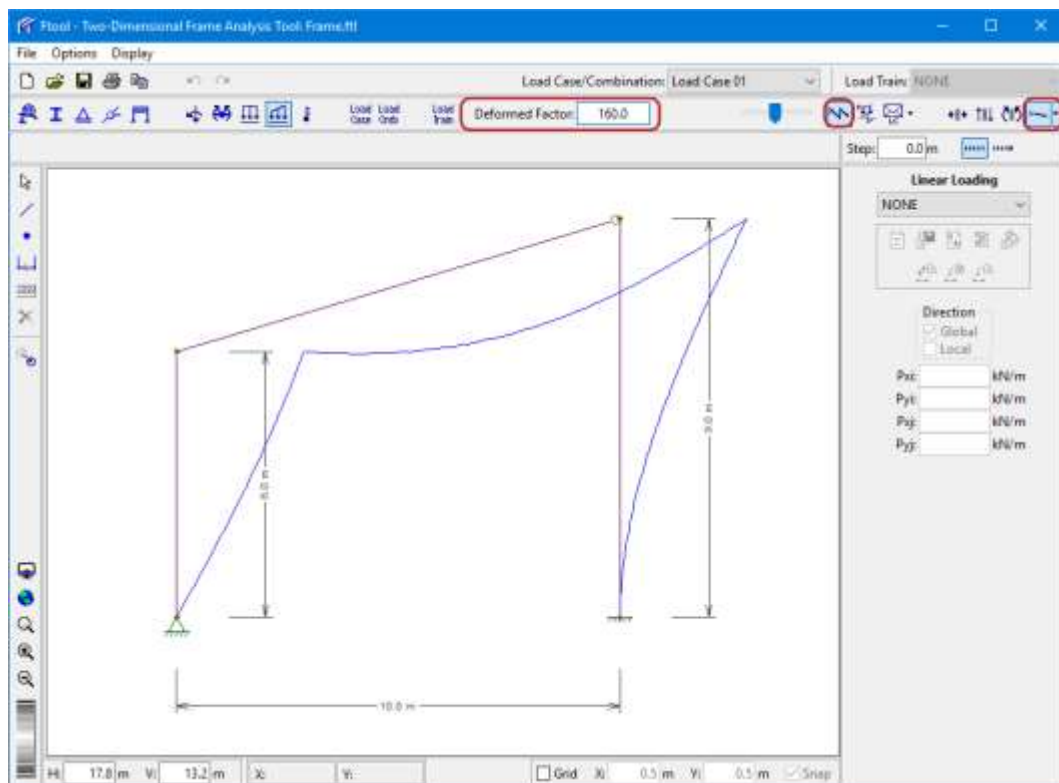
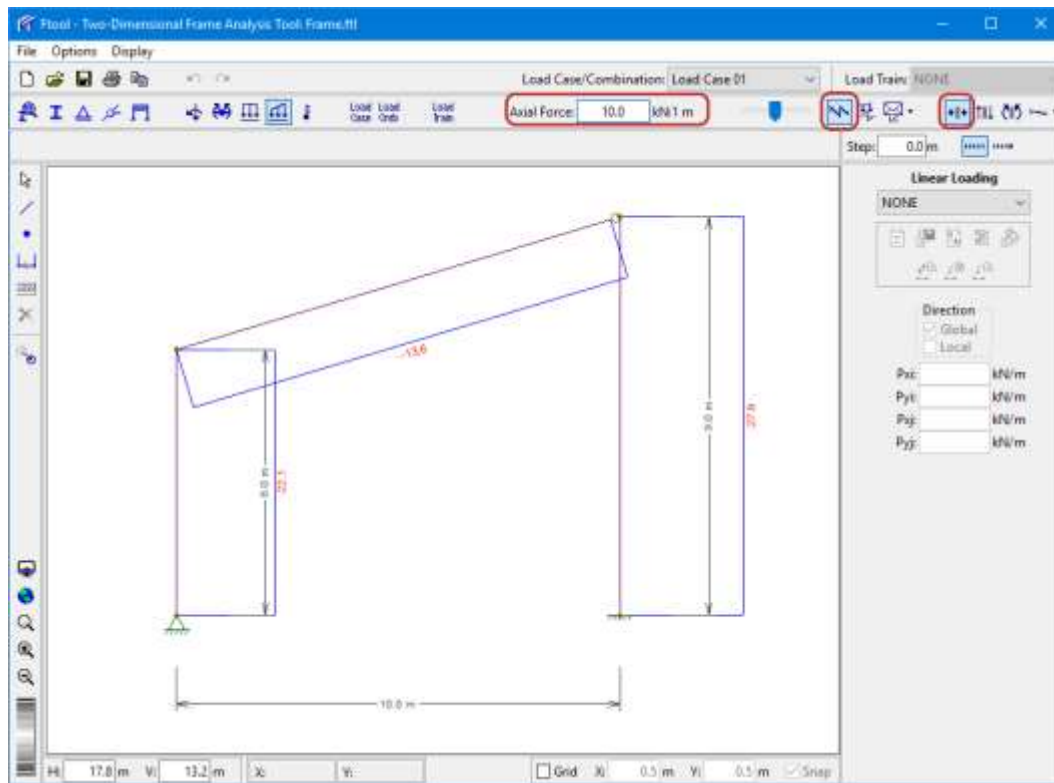## Salve complete model in the same created file (command "Save")

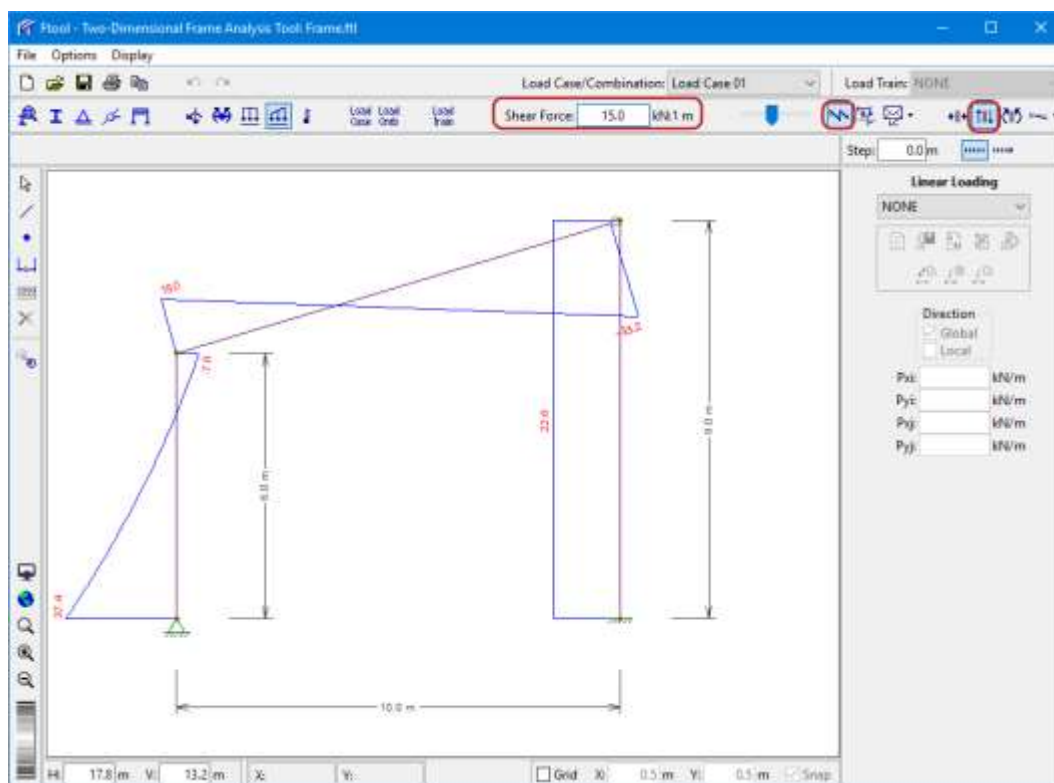## Visualization of model deformed configuration response

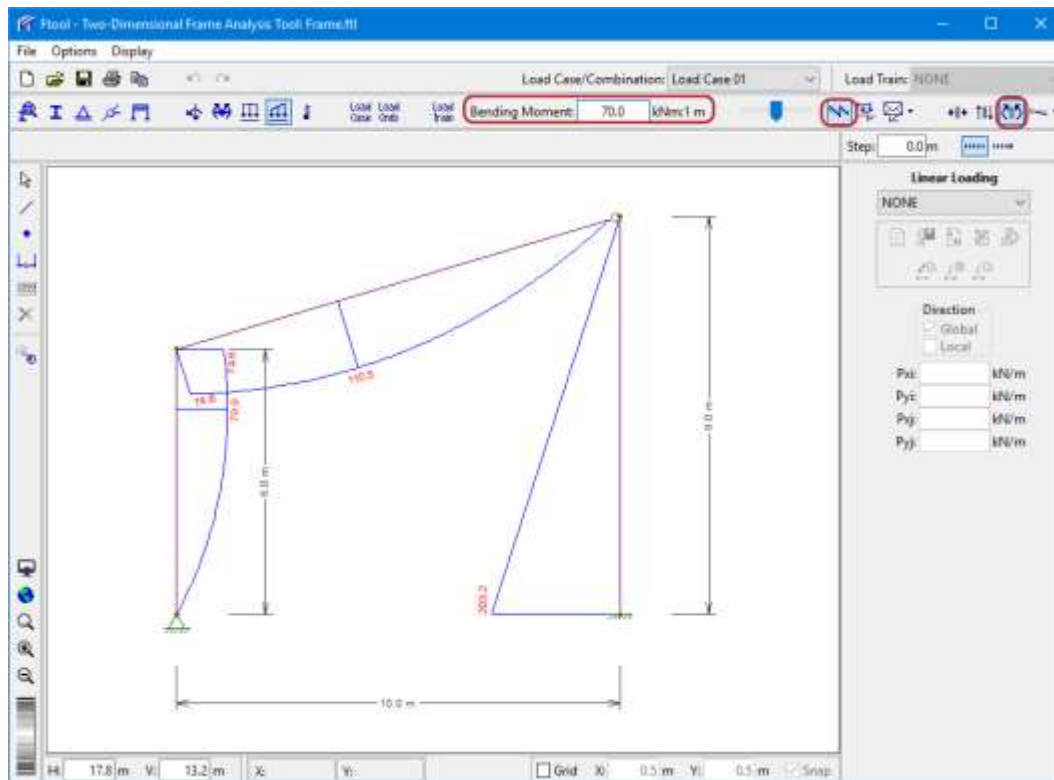## Visualization of model axial force diagram response

Visualization of model shear force diagram response

Visualization of model bending moment diagram response

Visualization of support reactions