

# Structural Extrusion Templates

## How to use:

- Treat the part templates as you would a blank document. You may modify the length (or profile) the extrusion and merely save the part.
- The save command will then prompt you for a file name since the part is regarded only as a template.
- The material and surface appearance is defined in the template.
- When making a drawing of this type of component, you can add a custom column to the bill of materials that contains the cut length (value of the extrusion length). For a demonstration, contact Aaron Lyndaker.

## Additions

- If you have a profile you use often (Unistrut, ThorLabs rail, etc.) and would like to have it added to the templates, do the following:
  - Create a 2D sketch on the XY plane.
    - Ensure that the origin is something with meaning (i.e. the beam center of a beam pipe, the center of a 2x4 extrusion, etc.)
    - Ensure the sketch is fully constrained.
    - Ensure the sketch is accurate. This is not an area for tape measure models.
  - Create a short extrusion to make a basic solid model.
  - Set the material properties.
    - Be specific. Aluminum, 5052; Steel, 1018; Stainless Steel, 17-4PH.
    - Verify the density against a trusted source such as Matweb, ITER Handbook.
  - Set the surface color to be correct.
    - This should reflect reality – Unistrut is “Green (Flat)”
    - If the extrusion is purchased unfinished (i.e. DOM steel tubing), and to be painted later, leave the surface as bare metal.
  - Inform an administrator to have your model vetted and added to the templates.

## Corrections

- Notify an admin if you find an error with any model.

## Contacts

- The cognizant administrators of the templates are
  - Tim O’Connell (tio1)
  - Aaron Lyndaker (al533)