Learn to use (3.1) 3skeng Steelwork basics (ver.2.1)

This document contains all scene texts of the SketchUp file in case you have problems to fit the text on your screen.

Scene "Explanation"

Important for MAC-users:

Clicking on and making changes in the 3skeng client give it focus!

So please click on the SketchUp window once you are done to give SketchUp back focus.

This will enable input of measurements with the keyboard.

Scene "Learn to use Steelwork"

How-to use this file:

Click on the next scene to start or use the PgUP and PgDN keys

to advance to the previous or next scene.

Follow the description step-by-step ("*" requires action from you) and feel free to align the predefined view to fit your screen resolution and preference.

When successfully finished, go to the next scene and repeat until the last scene. It may be helpful to click on this scene for reference.

In the end, your design should look similar as shown below.

Scene "1-Single Straight Profile"

1) Click on the "Steelwork Tool" in the 3skeng toolbar.

2) Select shape type and standard in "library" register:

   * "T-Section" => "MT - USA - AISC".

3) Click to select the start point:

   * drawing origin.

4) Select the direction of the first profile segment:

   * hover over the blue axis and click.

   Info: Main axes are highlighted in the specific colors.

5) Select the orientation of the profile

   by using the degree selection

   or entering the value with the keyboard:

   * select "90°/270°" with either method.

6) Available options:

   a) * Click on "change type/standard":

      i) Select other shape type and standard in "library" register:

         * "I-Section" => "H - USA - ASTM A6-A6M".

      ii) Select other profile:

         Move along the squares to see the available profiles:

         horizontal = profile variations (e.g. flange/web thickness)

         vertical = different profiles (e.g. height)

         * select "H-HP200x53,0 ASTM A6/A6M (...mm)".

   b) "chamfered (profile) start": More details in scene 3.

   c) "chamfered (profile) end": More details in scene 3.

   d) "chamfered": More details in scenes 4, 5 and 6.

7) Move along the ruler to select the length

   or enter the value with the keyboard:

   * select "1000 mm" with either method.

   Info: One side of the ruler is always set to "inch",

the other side uses the drawing unit (this drawing is "mm").

Scene "2-Attach Straight Profile"

1) If not still active, click on the "Steelwork Tool".

2) Select side you want to attach a profile to.

   * Hover over the side facing you and click when highlighted.

3) Available options:

   a) "rotation": Change rotation by using degree selection or keyboard.

   * select "90/270°".

   b) * Click on "change type/standard":

      i) Select other shape type and standard in "library" register:

         * Keep "I-Section" => "H - USA - ASTM A6-A6M".

      ii) Select other profile:

         * select "H-W150x22,5 ASTM A6/A6M (...mm)".

   c) "orientation": Geometric relation orthogonal or parallel.

      * Select parallel relation.

4) To define the orthogonal position, go to outside, center or inside.

   Info: You can hold the "Shift" key to lock the orthogonal position.

   * Orthogonal position: Align to left side.

   To define the position on the profile:

   a) Five red pins give you predefined docking points:

      Aligned to ends from outside (1,5), inside (2,4) and center (3).

   b) You can use a pin for distance reference:

      Hover over a pin, move the mouse in any direction from there

      and enter the value with the keyboard (let go of "Shift").

   c) You can also select any "free" position with the mouse.

   * Parallel position: Select "150mm" from center in top direction. Click.

5) Available options:

a) "chamfered": More details in scene 4 and 5.

b) "change type/standard": no change(s).

6) Move along the ruler to select the length

or enter the value with the keyboard:

* select "400 mm" with either method.

Scene "3-Single Chamfered Profile (Two Sides)"

1) If not still active, click on the "Steelwork Tool".

2) Select shape type and standard in "library" register:

* "H - USA - ASTM A6-A6M".

3) Click to select the start point:

* top of line.

4) Select the direction of the first pipeline segment:

* hover over the blue axis and click.

Info: Main axes are highlighted in the specific colors.

5) Select the orientation of the profile

by using the degree selection

or entering the value with the keyboard:

* select "90°/270°" with either method.

6) Available options:

a) "change type/standard": no change.

b) * Click on "chamfered (profile) start":

i) Select orientation for chamfered surface:

* Hover until green angle is highlighted and click.

ii) Select "±45°" to match the template and click.

c) * Click on "chamfered (profile) end":

i) Select orientation for chamfered surface:

* Hover until green angle is highlighted and click.

ii) * Select "±45°" to match the template and click.

d) "chamfered": More details in scene 4 and 5.

7) Move along the ruler to select the length

or enter the value with the keyboard:

* select "800 mm" with either method.

Scene "4-Attach Chamfered Profile"

1) If not still active, click on the "Steelwork Tool".

2) Select side you want to attach a profile to.

* Hover over the top chamfered end and click when highlighted.

3) Available options:

a) "rotation": Change rotation by using degree selection or keyboard.

* select "0/180°".

b) "change type/standard": no changes.

c) "orientation": no changes.

4) Define the position on the surface.

Five red pins give you predefined docking points:

Aligned to ends from outside (1,5), inside (2,4) and center (3).

* Align to center.

5) Available options:

a) * Click on "chamfered":

i) Select orientation for chamfered surface:

* Hover until green angle is highlighted and click.

ii) * Select "45°" and click.

b) "change type/standard": no change(s).

6) To select profile length:

* Hover over visible side of profile until highlighted.

* Hold "Shift" and move mouse to not visible side until highlighted.

* Click when highlighted.

The chamfered profile should now be aligned to the top of the straight profile.

Scene "5-Chamfered Profile (fixed angle)"

1) If not still active, click on the "Steelwork Tool".

2) Select side you want to attach a profile to.

   * Hover over the side looking towards you and click when highlighted.

3) Available options:

   a) "orientation": no change.

   b) * Click on "change type/standard":

      * Hover over long (larger) profile and click to inherit properties.

   c) "rotation": no change.

4) Define orthogonal and parallel position (see 2-Attach Straight Profile).

   * Orthogonal position: Align to center.

   * Parallel position: Select top from inside. Click.

5) Available options:

   a) "change type/standard": no change(s).

   b) "chamfered (profile) end": no change(s).

   c) * Click on "chamfered":

      i) Select the cutting modes for start (top) and end (bottom)

          in "library" register:

          * Select chamfered for start and rectangular for end.

      ii) Select the starting axis for the chamfered profile.

          Please try different axes to fully understand the effect.

          * Select top red axis.

      iii) Select the angle

          by using the degree selection

          or entering the value with the keyboard:

          * select "-45°" with either method.

6) Move along the ruler to select the length

   or enter the value with the keyboard:

* select "400 mm" with either method.

Scene "6-Chamfered Profile (variable angle)"

1) If not still active, click on the "Steelwork Tool".

2) Select side you want to attach a profile to (arrow).

* Hover over the side facing you and click when highlighted.

3) Available options:

a) "orientation": no change.

b) * Click on "change type/standard":

* Hover over smaller profile to inherit properties and click.

c) "rotation": no change.

4) Define orthogonal and parallel position (see 2-Attach Straight Profile).

* Orthogonal position: Align to center.

* Parallel position: Select bottom from inside. Click.

5) Available options:

a) "change type/standard": no change(s).

b) * Click on "chamfered":

i) Select the cutting modes for start and end in "library" register.

* Select chamfered for start and end.

ii) Select the starting axis for the chamfered profile.

* Select bottom green axis.

iii) To fit profile length to opposite profile:

* Hover over visible side of opposite profile until highlighted.

* Hold "Shift" and move mouse to not visible side until highlighted.

* Slowly move to top red pin and click when highlighted.

The chamfered profile should now be aligned to the top of the opposite profile.