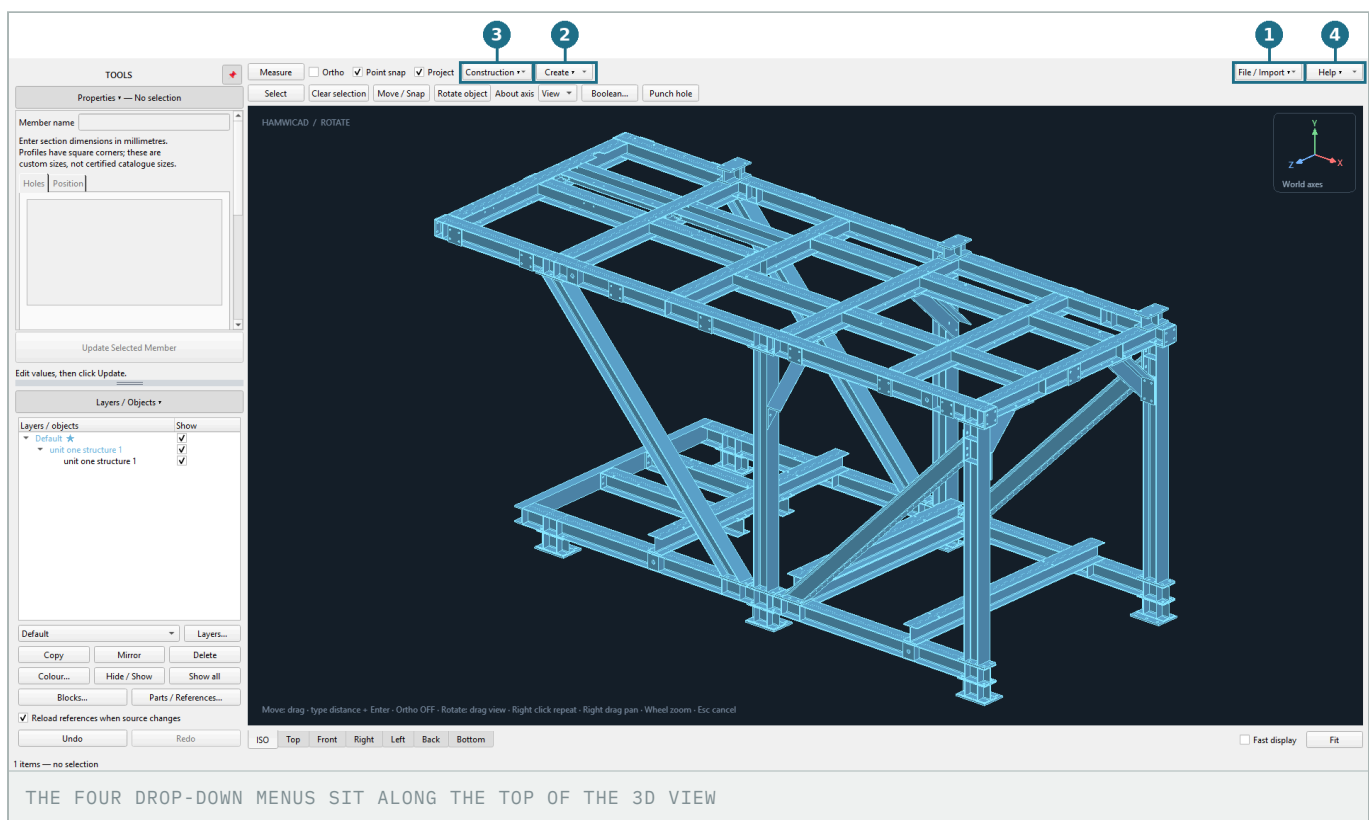


Menu Guide

What every command in HamwiCAD's four drop-down menus does, with the buttons and keyboard keys you'll use alongside them. Keep it beside you while you learn the program.



1 File / Import

Projects, STEP and IGES, 2D DXF views, the cut list, your licence key. Page 2.

3 Construction

Lines, arcs, circles and splines to model against, and DXF curves. Page 5.

2 Create

Beams, plates, steel sections, end details, pipework, fasteners, stairs and floors. Page 3.

4 Help

The user guide, licence agreement, safe display and About. Page 6.

1 File / Import

File / Import ▼

Everything that goes into or out of HamwiCAD: your project files, 3D models from other CAD programs, and the files the workshop needs.

COMMAND	WHAT IT DOES
PROJECTS	
New Project Ctrl + N	Starts a blank project. If the current one has unsaved changes, you're asked whether to save them first.
Open Project... Ctrl + O	Opens a HamwiCAD project (.hamwicad). Older .steelcad files open too.
Save Project... Ctrl + S	Saves to the current file. The first time, it asks for a name.
Save Project As...	Saves a copy under a new name: useful for keeping a revision before you change a design.
3D MODELS FROM OTHER PROGRAMS	
Import STEP...	Reads a STEP file (.step, .stp) and shows the Import STEP window before anything is added. It tells you how many parts and sub-assemblies the file holds, its units and its size, and lets you choose: • Bring in as one whole object (the default), one object per sub-assembly, or separate parts • Scale, showing the resulting size so a file in the wrong units is easy to spot • Position as in the file, at the origin or at a point you type • Colour from the file or the layer • Leave out small parts such as bolts and washers, or untick items in the parts tree. Items keep their names from the file. Damaged solids are repaired where possible, and HamwiCAD tells you, so check those parts against the original.
Explode selected object	Splits an imported object one level at a time: first into its named sub-assemblies, then into separate parts. Undo puts it back.
OUTPUT	
Export Assembly STEP...	Writes the whole model as exact 3D solids in a STEP file, for other CAD programs and clients.
Export Assembly IGES...	The same, as an IGES file (.igs), for programs that prefer IGES.
Export 2D views (DXF)...	Asks for a folder, then writes plain 2D DXF views of every part, every welded or bolted assembly and the general arrangement. They are drawn 1:1 in millimetres without dimensions, ready to detail in your own drawing program. Item Refs are brought up to date first, so the views and the cut list agree.

Cut List / Part Refs...

Numbers the parts, giving identical parts the same Item Ref, and opens the **Cut list** window with a preview of the printed sheets. Refs are kept when the model changes, and new parts get the next number.

- **Project data** (bottom left): steel grade, bolt grade and finish, sheet size and the title block details (company, job, client...), saved with the project. Bolt warnings and hole spacing checks are listed here too.
- **Save PDF... / Save DXF... / Save CSV...** save the cut list.
- **Save plate DXFs...** writes a 1:1 cutting file for each plate.

Only visible objects are listed, so hide a layer to leave it out.

LICENCE**Licence...**

Enter or check your licence key. During the free trial, this is where you paste the key when you buy. The trial becomes the licensed program straight away, with nothing to reinstall.

Check before you issue. Check critical dimensions, section sizes, quantities and units in every exported file and cut list before ordering or fabrication, and check imported and exported files in the program that receives them.

MENU 2

2

Create

Create ▼

Adds steelwork, plate, pipework and fasteners to the model, and the tools that lay out stairs and floors for you. New items go on the current layer (chosen under the Layers / objects list). Select an item to edit its sizes in the **Properties** panel on the left, then click **Update Selected Member**.

MEMBERS AND PLATES**Beam**

B

Adds a member with your own section: I-section, hollow box, channel, angle or rectangular bar. Set height, width, web, flange, length and end cut angles on the **Beam** tab. These are custom sizes with square corners, not catalogue sections.

Plate

Adds a loose plate. Set width, height, thickness and an optional hole grid on the **Plate** tab.

Steel section...

Inserts a catalogue section at the length you choose. Pick the tables (UK, Europe, USA/Canada, Australia/NZ, India or Japan), then the family (UB, UC, PFC, angle, SHS, RHS, CHS...) and the size, or type in **Find** to search.

END DETAILS**Chamfer member end...**

Cuts the start or finish of the selected beam at an angle from square (up to $\pm 75^\circ$), across its full depth or full width. 0° is a square end.

End flange / plate...

Adds an end plate with a hole grid to the selected beam. Choose the start or finish, then the plate size and holes (4, 6 or 8 holes, or custom). On catalogue sections each end is set separately and follows the angle of the cut.

Notch / cope beam...

Copes the end of a catalogue I or H section, either sized automatically to clear the beam it meets or to your own dimensions, at the top flange, bottom flange or both.

Fin on flat face...	Adds a fin plate standing square off a flat face. Click the mounting point on the face. Fins attached to a beam move with it.
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PIPEWORK AND HANDRAILS

Tubular section...	Makes tube and pipe from a pipe size or your own outside diameter and wall: • Straight: a length of tube. • Bend: a bend of set radius and angle, short or long radius. • Follow path: a run through a list of XYZ points, or along connected construction lines and arcs, with the corners turned into smooth bends. Use it for handrails and pipe runs.
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Flange...	Adds a plate, slip-on, weld-neck or blind flange, with ANSI/ASME and European drilling presets. It can be loose or attached to a pipe end (start, finish or both), and attached flanges move with the pipe.
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Nuts / Washers / Bolts...	Adds metric bolts (hex, Allen or countersunk heads), nuts, washers or a complete bolt set for a clamped thickness. Position them with Move / Snap .
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DESIGN AIDS

Stairs from top step...	Select the top step (or the parts that make it), then choose the height to the floor, run direction, number of steps, rise and going. HamwiCAD copies the step down the flight and checks rise and going against BS EN ISO 14122-3. Anything outside the standard shows in red, and you're asked before it builds. The new steps go in their own Steps layer.
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Floor plates / grating...	Select the supporting beams, then lay durbar plate or open-mesh grating across them. Set the panel weight limit, gap, floor load and deflection limit. Grating is checked against the chosen product's span table, and durbar as a simply supported plate. Too long a span is outlined in red with Add support here , which adds a beam and lays the floor again. You can also add countersunk fixing holes, matching holes in the beams, and kick plates.
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ASSEMBLIES AND SOLIDS

Make bolted assembly from selection...	Groups the selected members under a name (for example <i>Stair 1</i> or <i>Platform A</i>). The assembly gets its own view in Export 2D views . The members themselves are unchanged.
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Remove bolted assembly...	Removes a grouping. Its members stay in the model.
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Extrude selected construction	Turns a closed construction profile (or a circle) into a solid of the depth you type. A negative depth goes the other way. Select one line of the profile with Move / Snap first.
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Design aids are guidance only. The stair, floor, hole spacing and cope checks help you work to BS EN ISO 14122 and the relevant design standards. They do not replace calculations or approval: confirm every result against the applicable standard, loading and the client's specification, and have the design checked by a competent person.

3 Construction Construction ▼

Construction geometry is the setting-out you model against: grid lines, centre lines, pipe routes and profiles. It isn't part of the steel and doesn't appear in cut lists or exports. While drawing, press Enter to accept a typed value and Esc to cancel. Tick **Ortho** to keep lines exactly along X, Y or Z.

COMMAND	WHAT IT DOES
DRAW	
Line L	Click the start, click the direction, type the length and press Enter.
Circle O	Click the centre and direction, type the diameter, press Enter.
Point P	Click once to place a point to snap to.
Arc	Click the start, a point on the curve, then the end.
Closed spline / Open spline	Click the points in order, then press Enter.
Import DXF curves...	Brings lines, arcs and curves from a DXF (in mm) as construction, e.g. a plate profile from another drawing. Text and dimensions are skipped.
SHAPE	
Join selected lines/arcs	Joins connected pieces into one path, for <i>Follow path</i> or <i>Extrude</i> .
Unjoin selected path	Splits a joined path back into its pieces.
Chamfer / Fillet	Cuts or rounds the corner between two lines, by the distances or radius you type.
Offset selected construction	A parallel copy of one line or circle at a set distance.
MOVE AND COPY	
Move selected construction	Moves the selection by the X, Y and Z distances you type.
Move selected construction with mouse	Drag it from a snap point to its new position.
Copy selected construction	Copies the selection by the X, Y and Z distances you type.
MANAGE	
Freeze / Unfreeze selected construction	Frozen construction can't be moved by accident.
Show all / Hide all construction	Shows or hides all construction geometry at once.

COMMAND	WHAT IT DOES
Construction colour	Changes the colour of the selected construction, or all of it if nothing is selected.
Delete selected construction	Deletes the selection.
Delete all construction	Clears all construction geometry. Undo brings it back.

Tip: draw a pipe route or handrail line as construction, join it, then use **Create ► Tubular section... ► Follow path ► Use connected construction lines / arcs**.

MENU 4

4 Help

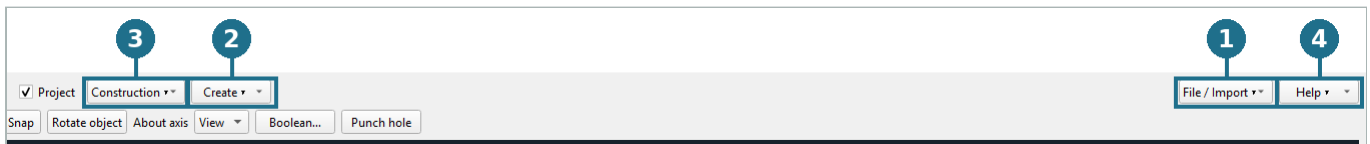
Help ▼

COMMAND	WHAT IT DOES
User Guide...	Opens the HamwiCAD user guide inside the program.
Licence Agreement...	The licence agreement you accepted at first start, to read again at any time.
Open licences folder	The full licence texts of the open-source components HamwiCAD uses.
Software 3D display (if the window is black)	A tick-box. When ticked, HamwiCAD draws the 3D view without the graphics card, from the next start. HamwiCAD normally switches to it by itself when it needs to. It's slower with very large models but otherwise the same. If HamwiCAD won't open at all, start HamwiCAD (safe display) from the Start Menu (Windows) or the applications menu (Linux).
About HamwiCAD...	Version and edition, copyright, the engineering disclaimer, and the third-party notices with the offer of source code.

ALONGSIDE THE MENUS

Buttons and keyboard keys

The buttons beside the menus are the ones you'll use most while modelling.



BUTTON	WHAT IT DOES
Select	Drag a box to select: left to right picks what's wholly inside, right to left also picks what it crosses. Shift-click adds or removes.
Clear selection	Deselects everything.
Move / Snap	Drag an item from a snap point to its new place, or type a distance and press Enter.
Rotate object	Rotates the selection. About axis chooses the screen (<i>View</i>) or world X, Y or Z.

BUTTON	WHAT IT DOES
Boolean...	Subtract, join (union) or intersect two solids.
Punch hole	Drills a hole at an existing hole centre or any snapped point, through the nearest flange or plate, or all the way through.
Measure	Point to point, point to edge or face, or edge or face to edge or face.
Ortho · Point snap · Project	Keep moves square to X, Y and Z · snap to exact points · snap to points as seen on screen, for members further back.
ISO · Top · Front · Right · Left · Back · Bottom	The view tabs under the 3D view.
Fast display · Fit	Wireframe for large models (snaps stay exact) · zoom to fit everything.

Keyboard keys

Ctrl + Z	Undo	Ctrl + Y	Redo	Space	Repeat the last command
B	New beam	C	Copy the selection	M	Move / Snap
R	Rotate object	H	Hide / show the selection	D	Measure
F	Fit to the window	L · O · P	Construction line · circle · point	Esc	Cancel the current command

Single-letter keys work while the 3D view or the objects list is active, never while you're typing in a box, and number keys are always for typing lengths.

The panel on the left

Hover over **TOOLS** to open it, or click the pin to keep it open.

Properties	Sizes and details of the selected item, on tabs: <i>Beam, Ends, Plate, Fins, Holes, Position</i> . Edit, then click Update Selected Member .
Layers / objects	Every item, organised in layers. Copy, Mirror, Delete, Colour... , Hide / Show, Show all, Blocks... (repeated items sharing one geometry), Parts / References... (save a part to its own file and insert it in other projects as a linked reference), Layers... , Undo and Redo .

Engineering responsibility. HamwiCAD is a drafting and 3D modelling tool. Its suggestions, sizes and checks are indicative only: they are not engineering advice and do not approve a design. Have all output checked by a competent person before fabrication, construction or installation. See clause 6 of the HamwiCAD Licence Agreement.

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