



Module Roof steel sheet



Wind calculations– modules Roof steel sheet

General Information:

1. General Information

Data Input:

2. General - data input area

3. Roof parameters

4. Roof shape

5. Sheet parameters

Model 3D:

7. Model 3D

8. Optimizing fasteners

Results:

9. Results in wind zones

10. Report printout



– Move on to a topic of your choice



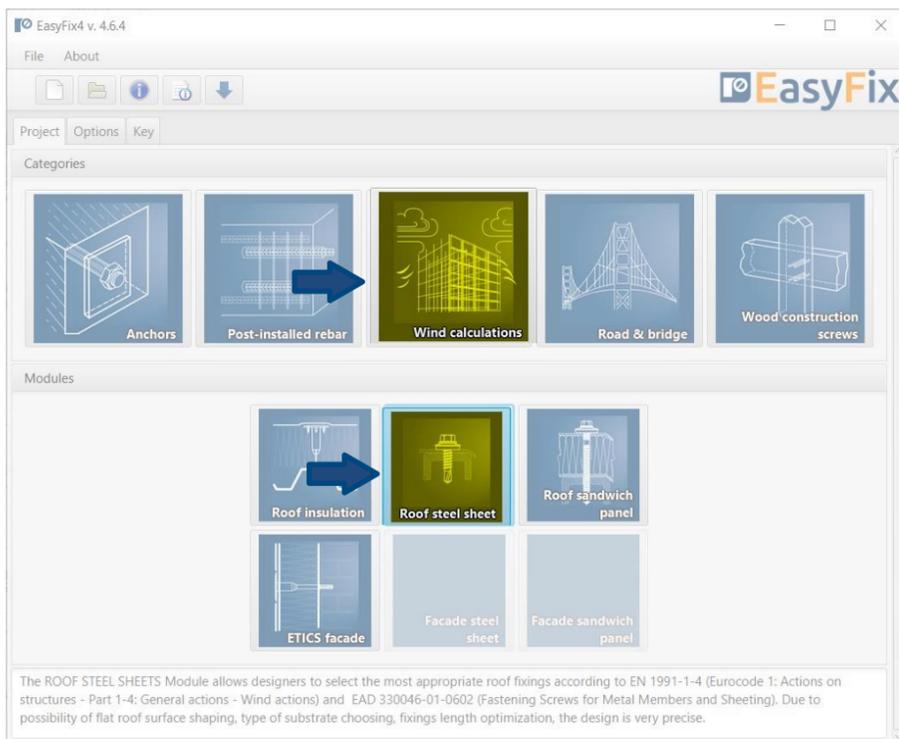
– Back to table of contents



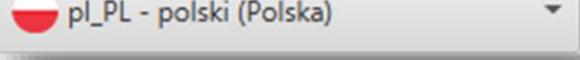
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1 General information

Select a category and module :

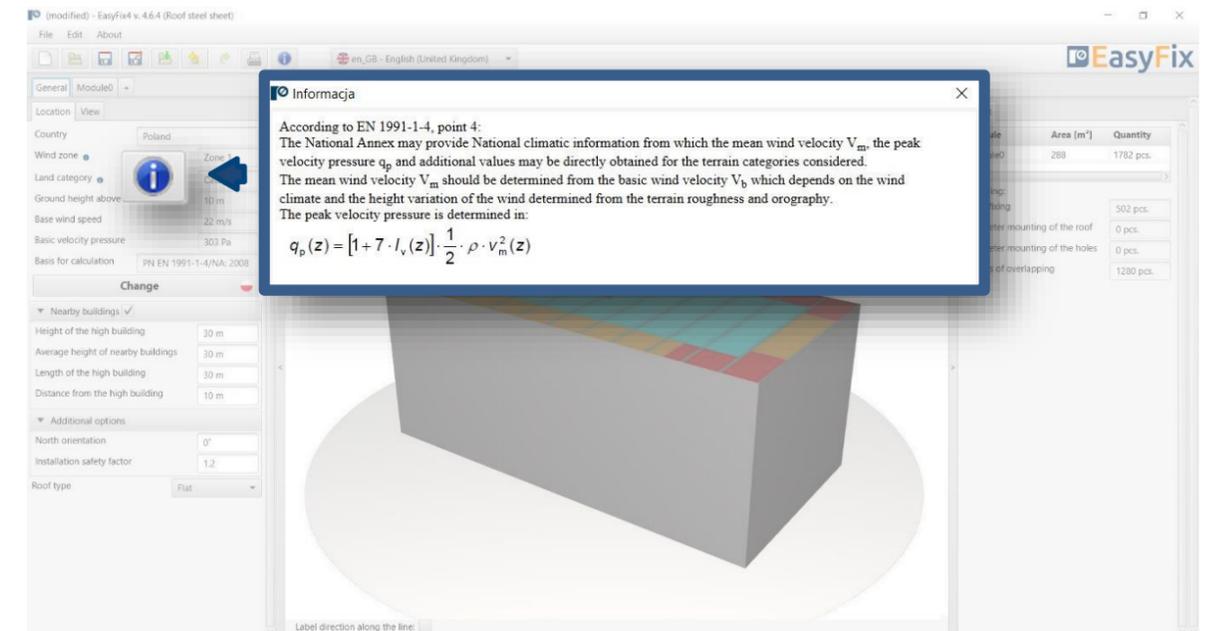


Designation of icons and symbols :

-  Create a new project
-  Open project
-  Save | Save as project
-  Undo | Redo changes
-  Generate printout to pdf file
-  Program information
-  pl_PL - polski (Polska)

Selecting the program language

-  Information icons
-  User Manual





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2 Introduction Basic window of the Roof steel sheet module

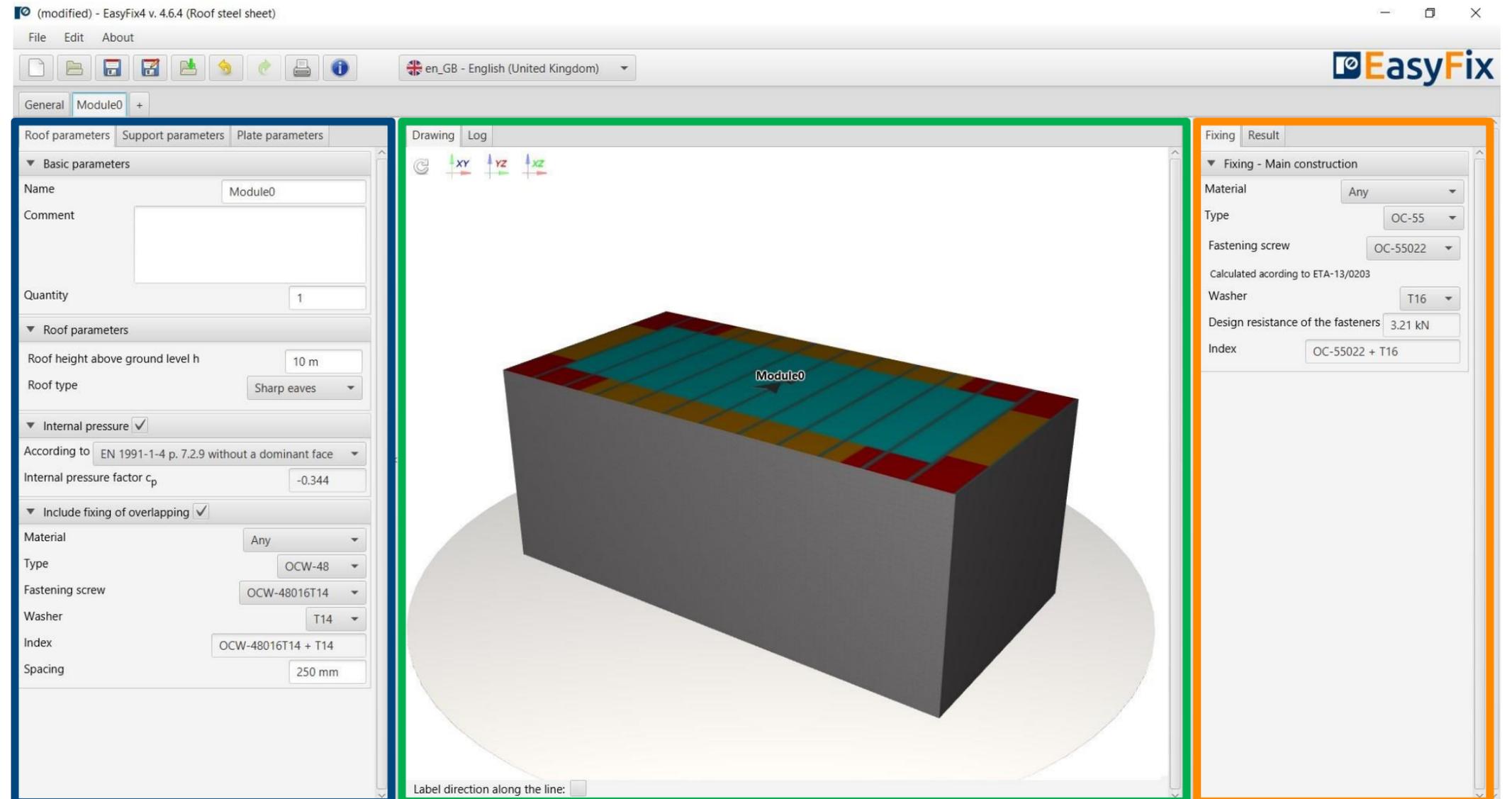
The basic window is divided into three areas:

- data entry
- model view
- results

Input area
General
Module
 Location - data concerning the location of an object in the field
Module
 Roof parameters
 Support parameters
 Plate parameters

View of the model
 3D view with rotation and zoom in/out

Result area
Fasteners
Results





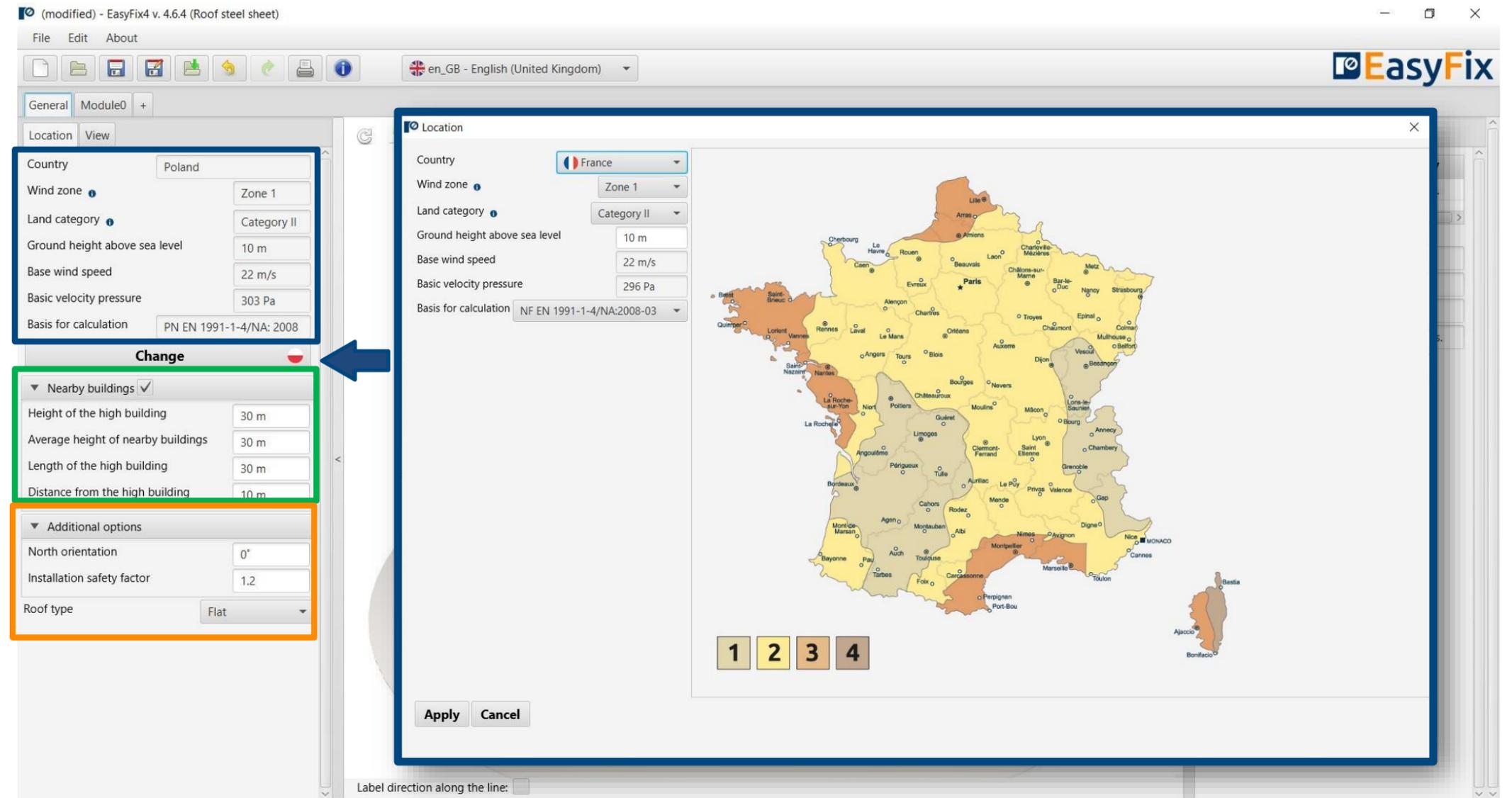
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3 General tab - Location Input area

Location - enter data on the location of the building
 Clicking on the **Change** icon opens a window allowing you to select a different location - country

Neighbouring buildings - a field enabling the influence of neighbouring buildings to be taken into account in the calculation

Additional options
 Location relative to north
 Change of installation factor
 Roof type





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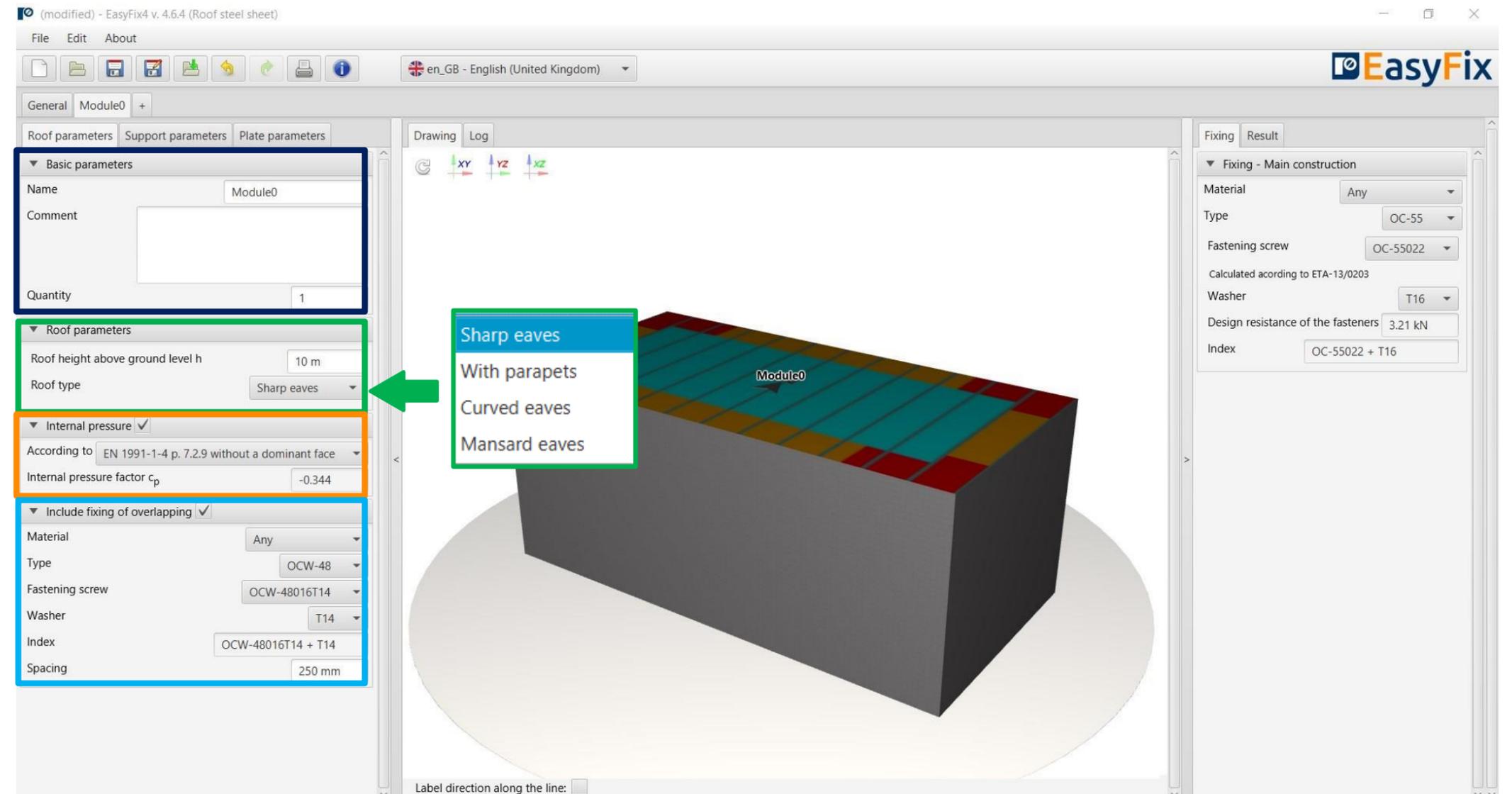
4 Module- Roof parameters tab Input area

Basic parameters - allows you to give an individual name to the module and the notes visible on the printout

Roof parameters - define the height and type of roof type

Internal pressure - consideration of internal pressure according to EN

Fixing of overlapping sheets - selection of fasteners for joining sheets together





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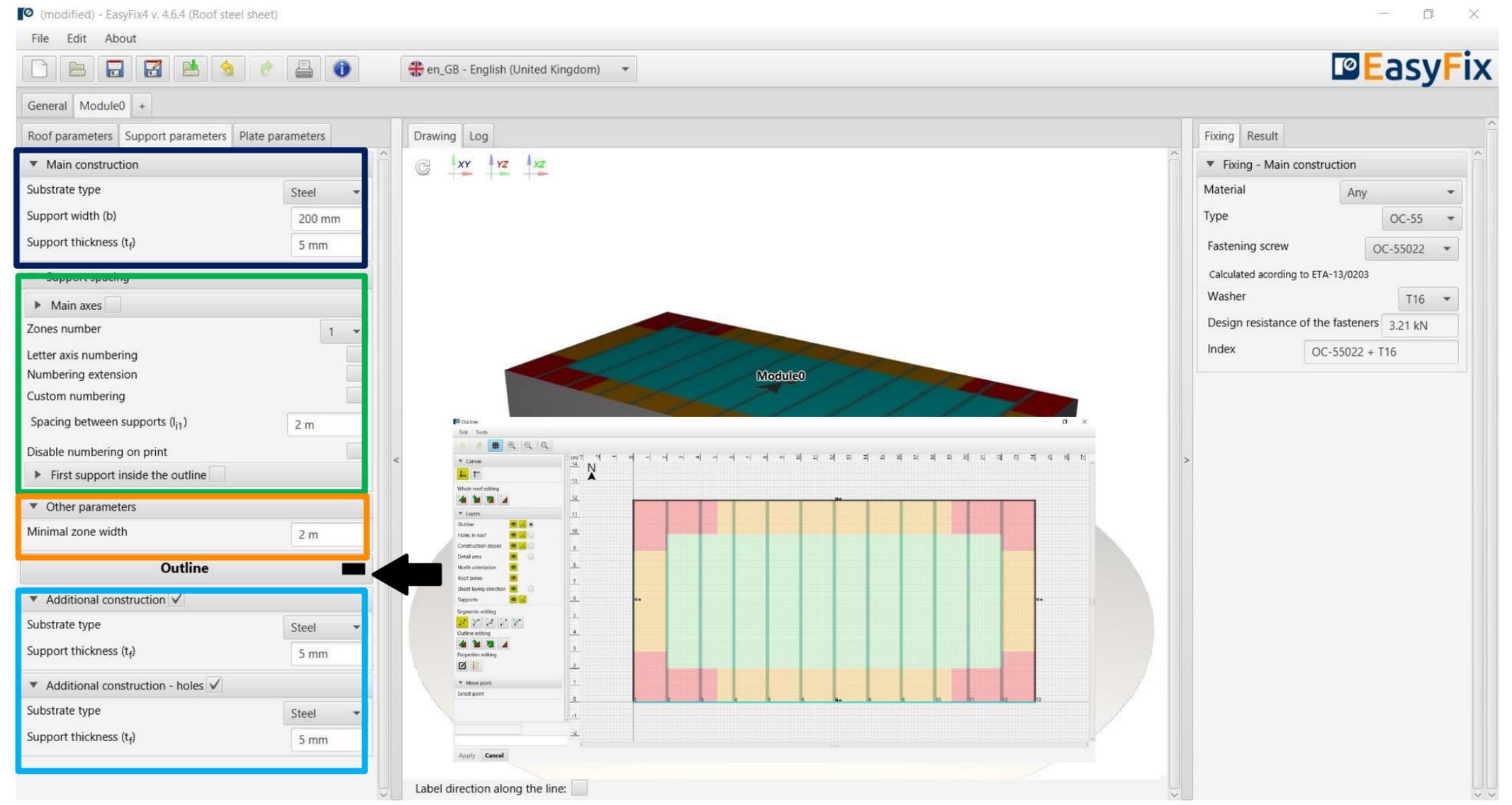
4 Module tab - Support parameters Input area

Main construction - selection of the type and parameters of supports

Support spacing - define the geometry of the support system

Other parameters - defining min width of wind zones

Additional elements - definition of an additional substructure and openings in the roof covering





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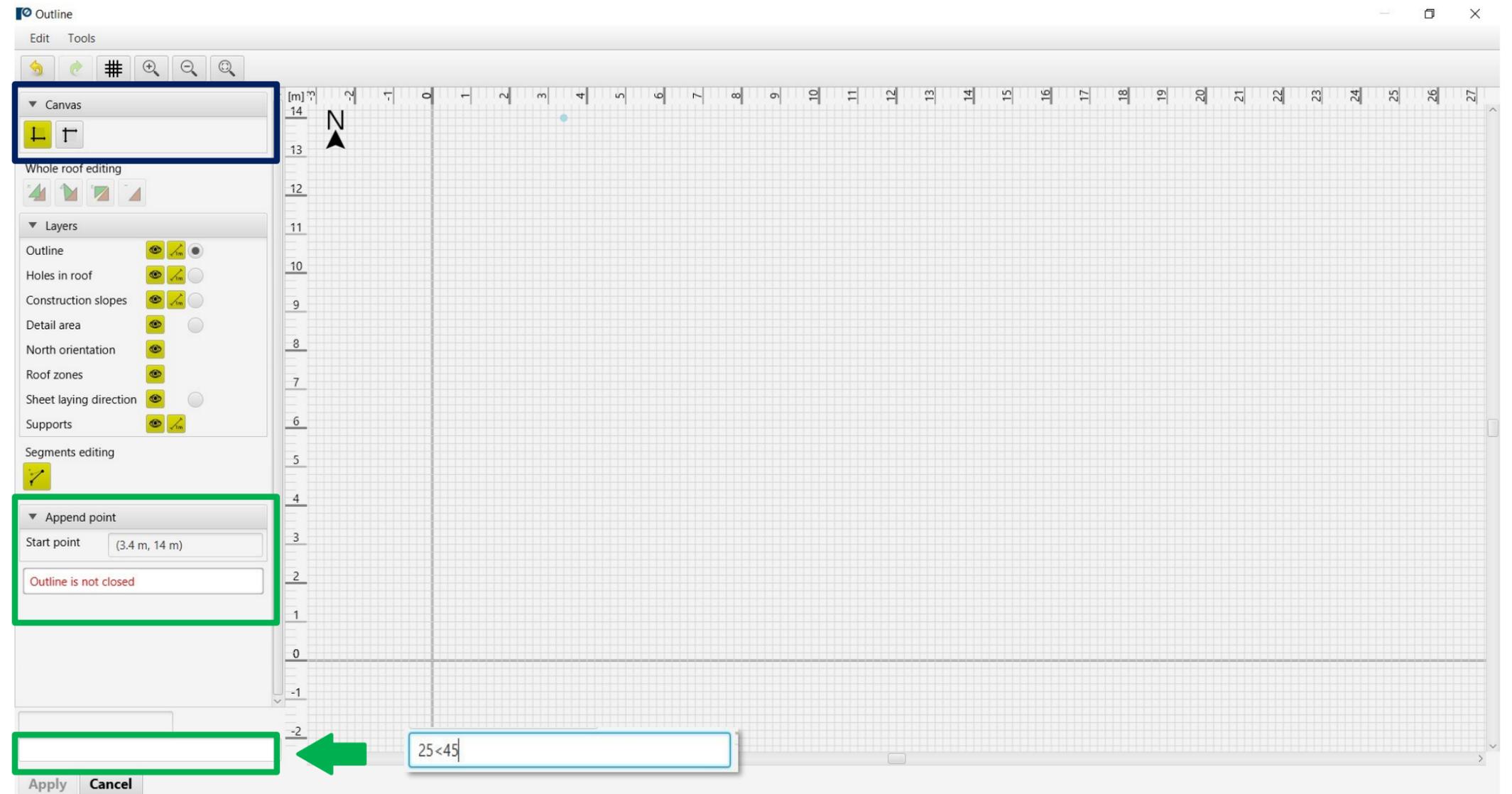
5

Module 0 tab
Roof shape

Canvas - Ability to select the direction of the coordinate system.

Drawing is possible by clicking on a grid point or entering coordinates in the help window.

- The coordinates are entered:
1. the length and angle of the segment separated by <
 2. the coordinates of the point





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5 Module 0 tab
Roof shape

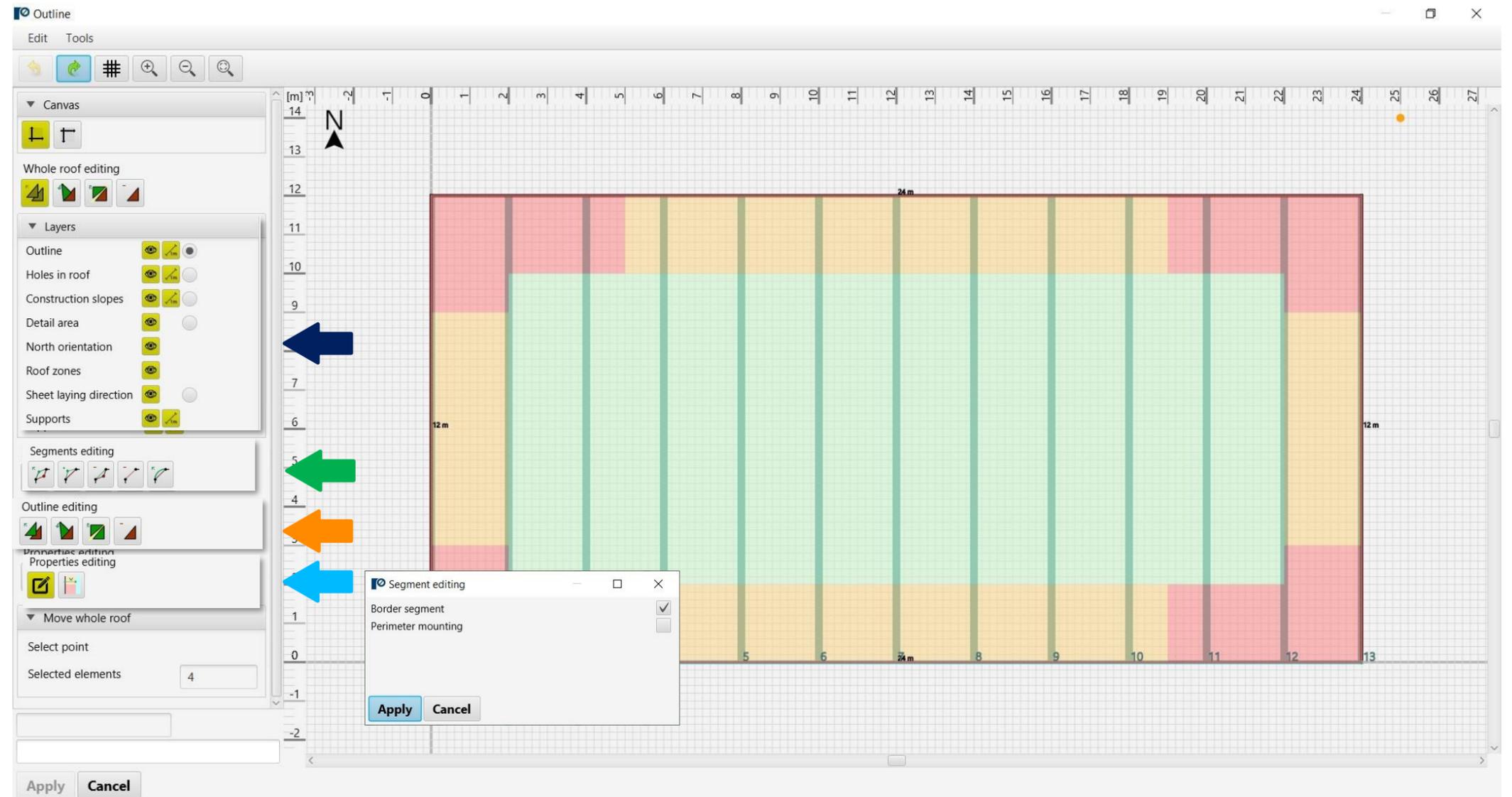
Drawing - Closing the roof area causes the wind zones to be calculated and visualized on the drawing.

Layers field - allows you to enable or disable the view of drawing layers

Segment editing allows you to:
Move a point
Addition of a point
Delete a point
Delete entire side
Add an arc

Shape editing window allows you to:
Move
Rotation
Reflection
Removal

Properties editing - button enables the editing of a selected edge and also the declaration of an additional fastening



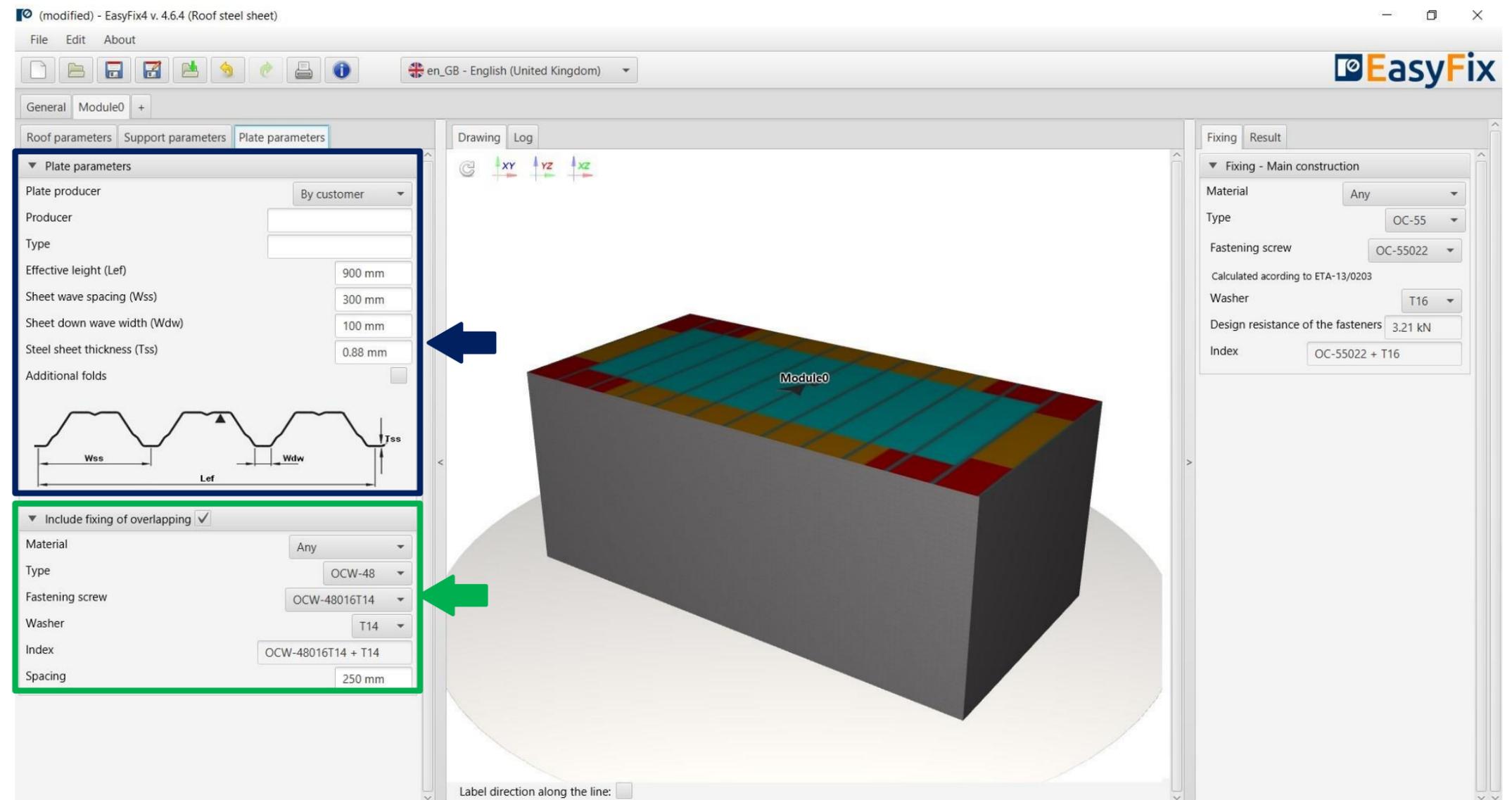


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6 Module tab - Sheet metal parameters Input area

Sheet parameters - allows you to enter user data or select a manufacturer and type from a drop-down list

Fixing of overlapping sheets - selection of fasteners for joining sheets together





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7 Model View

3D view - by clicking on the coordinate system buttons the view can be switched to a 2D plane

The screenshot displays the EasyFix software interface. On the left, a 3D model of a roof steel sheet is shown. A blue arrow points from this model to a larger 2D view of the same sheet, which is highlighted with a blue border. The 2D view shows a cyan-colored sheet with red and orange borders, and a coordinate system (XY, YZ, XZ) is visible above it. The software interface includes a top menu bar with 'en_GB - English (United Kingdom)' and the 'EasyFix' logo. On the right side, there is a 'Fixing' panel with the following settings:

- Material: Any
- Type: OC-55
- Fastening screw: OC-55022
- Calculated according to: ETA-13/0203
- Washer: T16
- Design resistance of the fasteners: 3.21 kN
- Index: OC-55022 + T16

Below the 3D model, there are input fields for 'Sheet down wave width (Wdw)' (900 mm), 'Steel sheet thickness (Tss)' (0.88 mm), and 'Additional folds'. A diagram shows the wave profile with dimensions 'Wes', 'Lef', and 'Wdw'. Below this, there is a section for 'Include fixing of overlapping' (checked) with the following settings:

- Material: Any
- Type: OCW-48
- Fastening screw: OCW-48016T14
- Washer: T14
- Index: OCW-48016T14 + T14
- Spacing: 250 mm



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8 Tab Connectors Results area

Fastener filter - allows for fastener selection according to defined filters (brand, material, washer)

The screenshot displays the EasyFix software interface for configuring roof steel sheet fasteners. The 'Fixing - Main construction' panel is the central focus, with several callout boxes highlighting specific filter options:

- Fastener List:** A vertical list of fastener types: OC-55, ON-55, OC-63, ONP-55, OCS-55, and ONS-55.
- Material Filter:** A box containing 'Any', 'Stainless steel', and 'Zinc plated steel'.
- Washer Filter:** A box containing 'T16' and 'A16'.
- Fastener Index List:** A vertical list of specific fastener indices: OC-55022, OC-55025, OC-55032, OC-55038, OC-55045, OC-55055, OC-55075, OC-55090, and OC-55120.

The main configuration panel shows the following settings for 'Fixing - Main construction':

- Material: Any
- Type: OC-55
- Fastening screw: OC-55022
- Calculated according to: ETA-13/0203
- Washer: T16
- Design resistance of the fasteners: 3.21 kN
- Index: OC-55022 + T16

Other visible settings include 'Include fixing of overlapping' checked, and a bottom section for 'OCW-48' with a spacing of 250 mm.



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8 Results tab Results area

Force in zone - information about the calculated pressure acting on the roof surface in zones.

Zone area m2 - calculated area of individual zones.

Number of fasteners - number of structural fasteners calculated for individual supports and total number of fasteners for the whole structure

The screenshot shows the EasyFix software interface for roof steel sheet calculations. The left sidebar contains 'Plate parameters' and 'Include fixing of overlapping' settings. The center shows a 3D model of the roof structure. The right sidebar displays the 'Result' tab with three tables:

Forces occurring in the zone [kPa]			
Zone F	Zone G	Zone H	Zone I
-3.562	-2.936	-1.934	-0.682

Zone area [m ²]			
Zone F	Zone G	Zone H	Zone I
48	80	160	0

Number of fixings [pcs.]			
Supports	Zone	Quantity	Utilisation
1	F	1	33.3%
1	G	1	27.4%
2	G - H	1	45.5%
2, 3	F	1	66.6%
3, 4, 5, 6, 7, 8, 9, 10, 11	H	1	36.1%
4, 5, 6, 7, 8, 9, 10	G	1	54.9%
11, 12	F	1	66.6%
12	G - H	1	45.5%
13	F	1	33.3%
13	G	1	27.4%

Summary of fasteners:

- Main fixing: 502 pcs.
- Perimeter mounting of the roof: 0 pcs.
- Perimeter mounting of the holes: 0 pcs.
- Fixings of overlapping: 1280 pcs.
- Total: 1782 pcs.**



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9 Generation of Printout

Print option.
Enables the generation of a document in the pdf extension.

Zone	Quantity	Utilisation
F	1	33.3%
G	1	27.4%
G - H	1	45.5%
F	1	66.6%
H	1	36.1%
G	1	54.9%
F	1	66.6%
G - H	1	45.5%
F	1	33.3%
G	1	27.4%

Perimeter mounting of the roof	502 pcs.
Perimeter mounting of the holes	0 pcs.
Fixings of overlapping	1280 pcs.
Total	1782 pcs.

