



Module Roof Sandwich panel



Wind calculations– modules Roof Sandwich panel

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



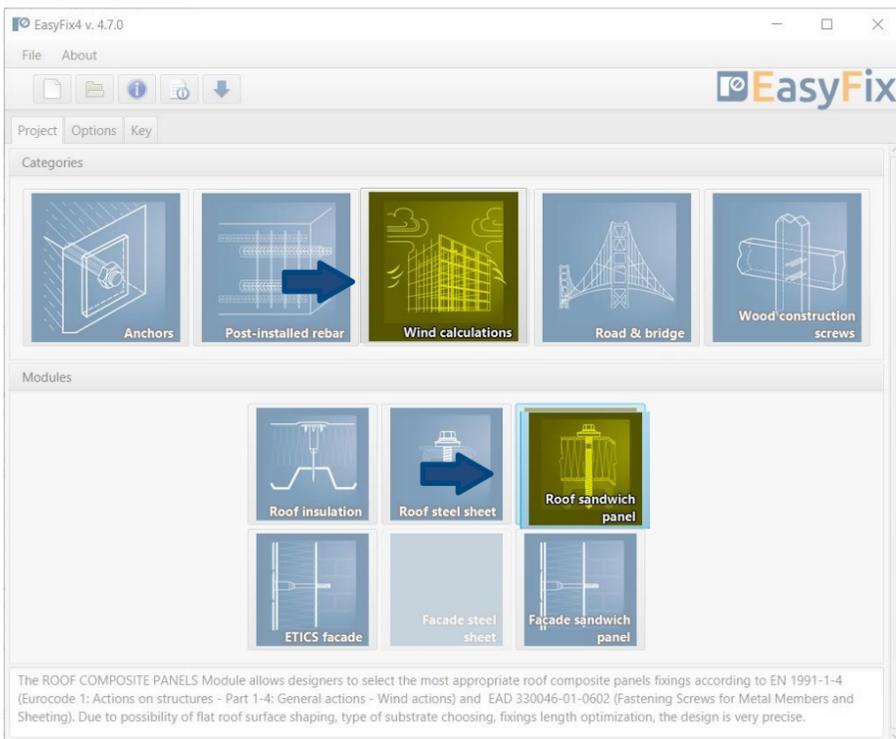
– Back to table of contents



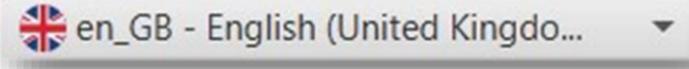
Wind calculations– modules Roof Sandwich panel

1 General information

Select a category and module :

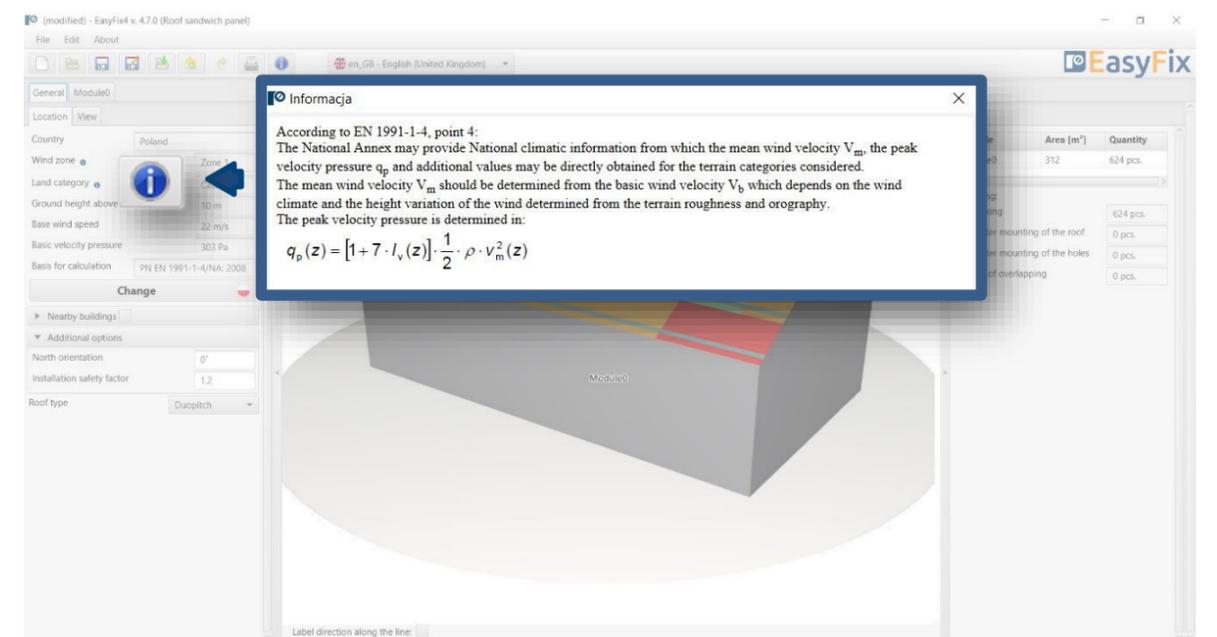


Designation of icons and symbols :

-  Create a new project
-  Open project
-  Save |  Save as project
-  Undo |  Redo changes
-  Generate printout to pdf file
-  Program information
-  en_GB - English (United Kingdo...

Selecting the program language

-  Information icons
-  User Manual





Wind calculations– modules Roof Sandwich panel

2 Introduction Basic window of the Roof Sandwich panel module

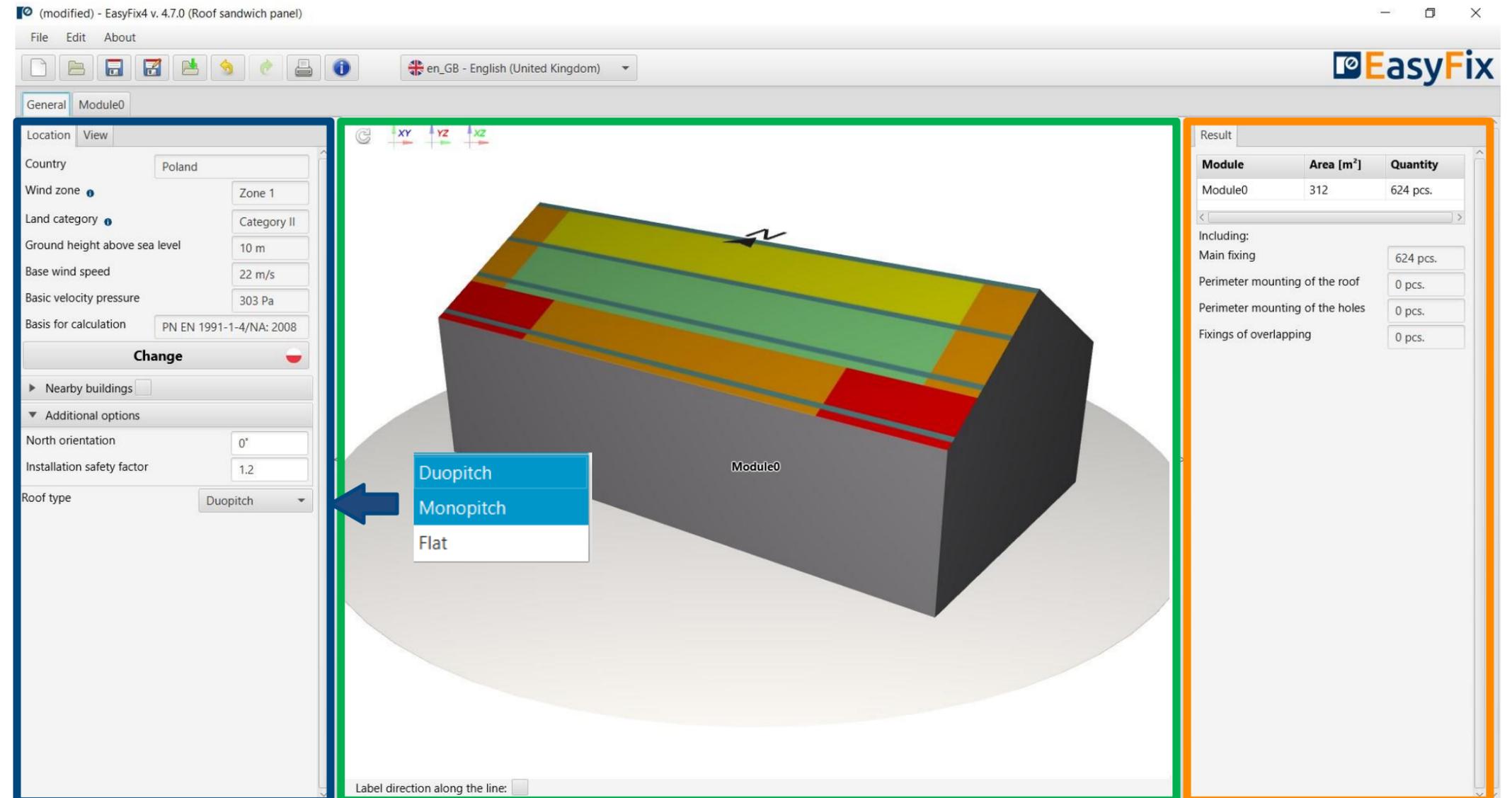
The basic window is divided into three areas:

- 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
Panel parameters

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

Result area
Results





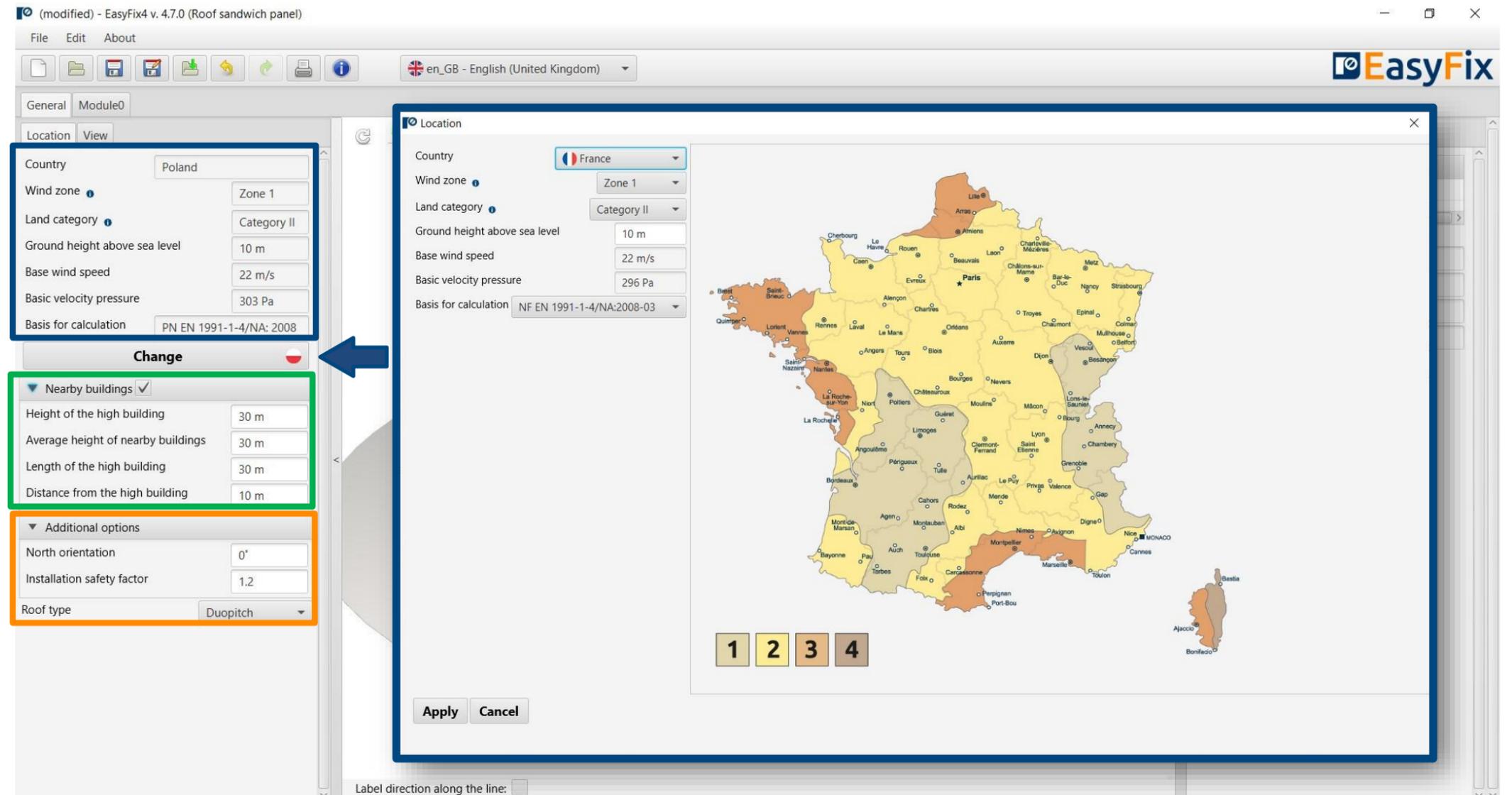
Wind calculations– modules Sandwich panel

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





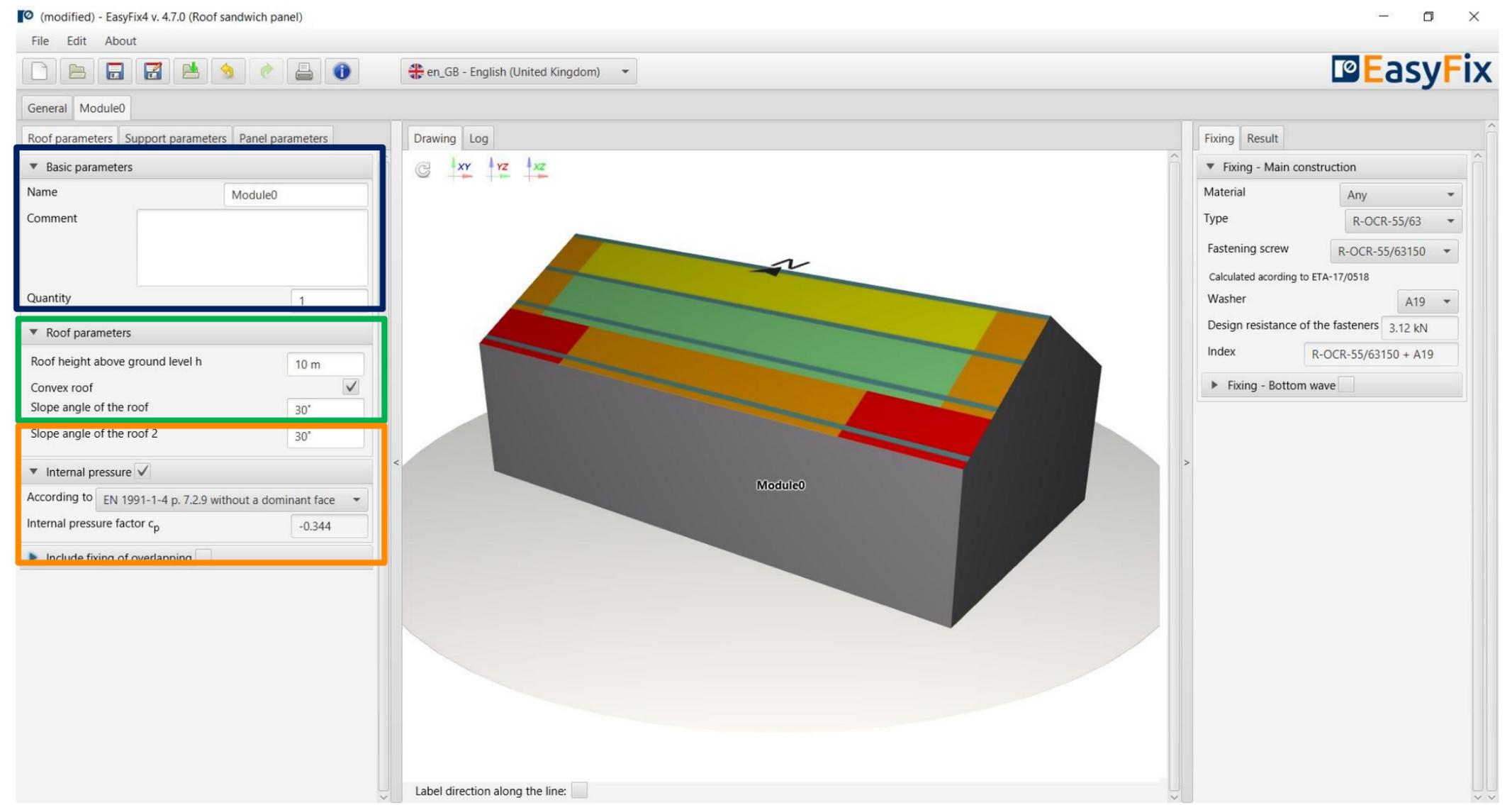
Wind calculations– modules Sandwich panel

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





Wind calculations – modules Sandwich panel

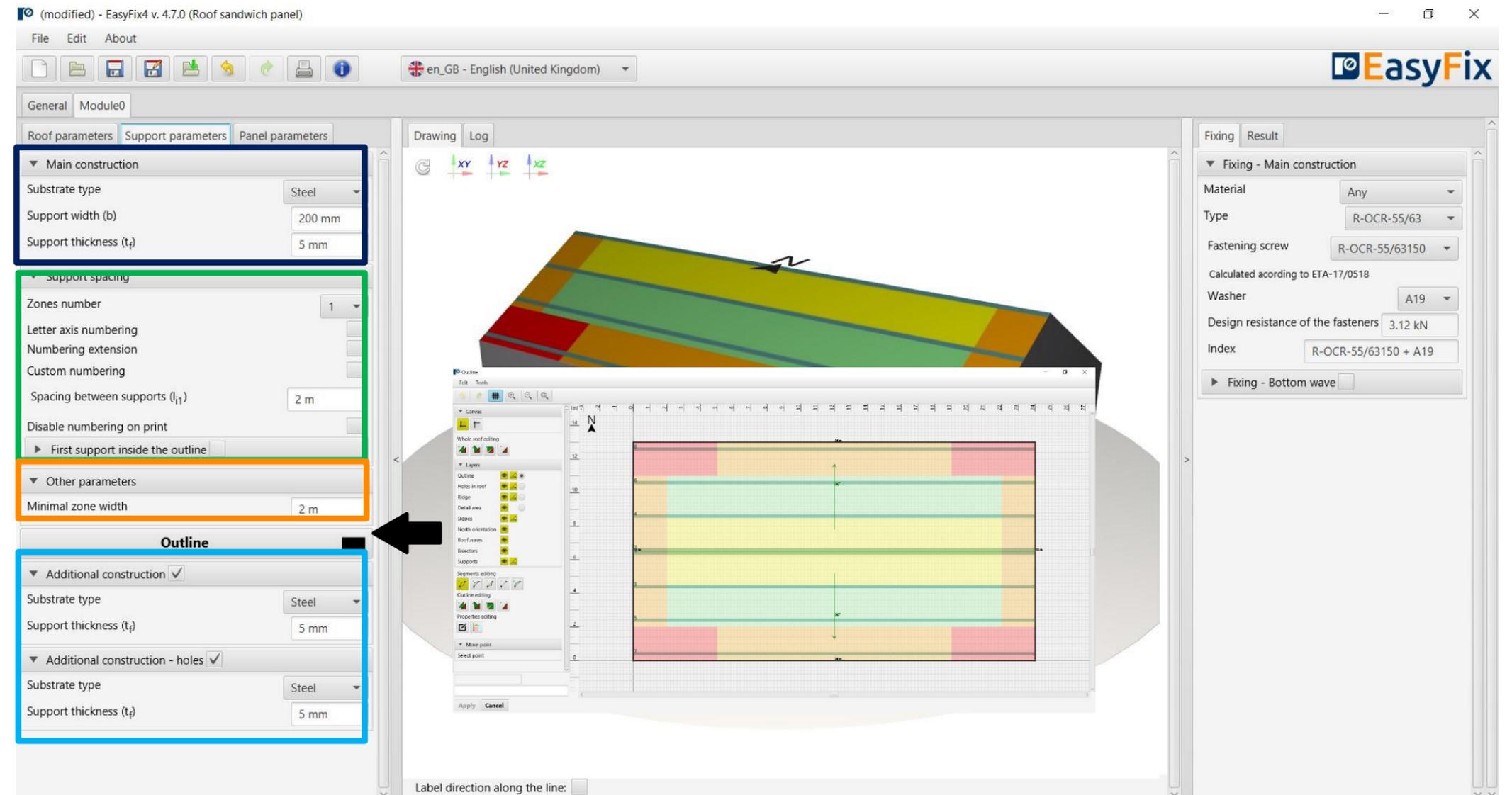
4 Module tab - Support parameters Input area

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





Wind calculations– modules Roof Sandwich panel

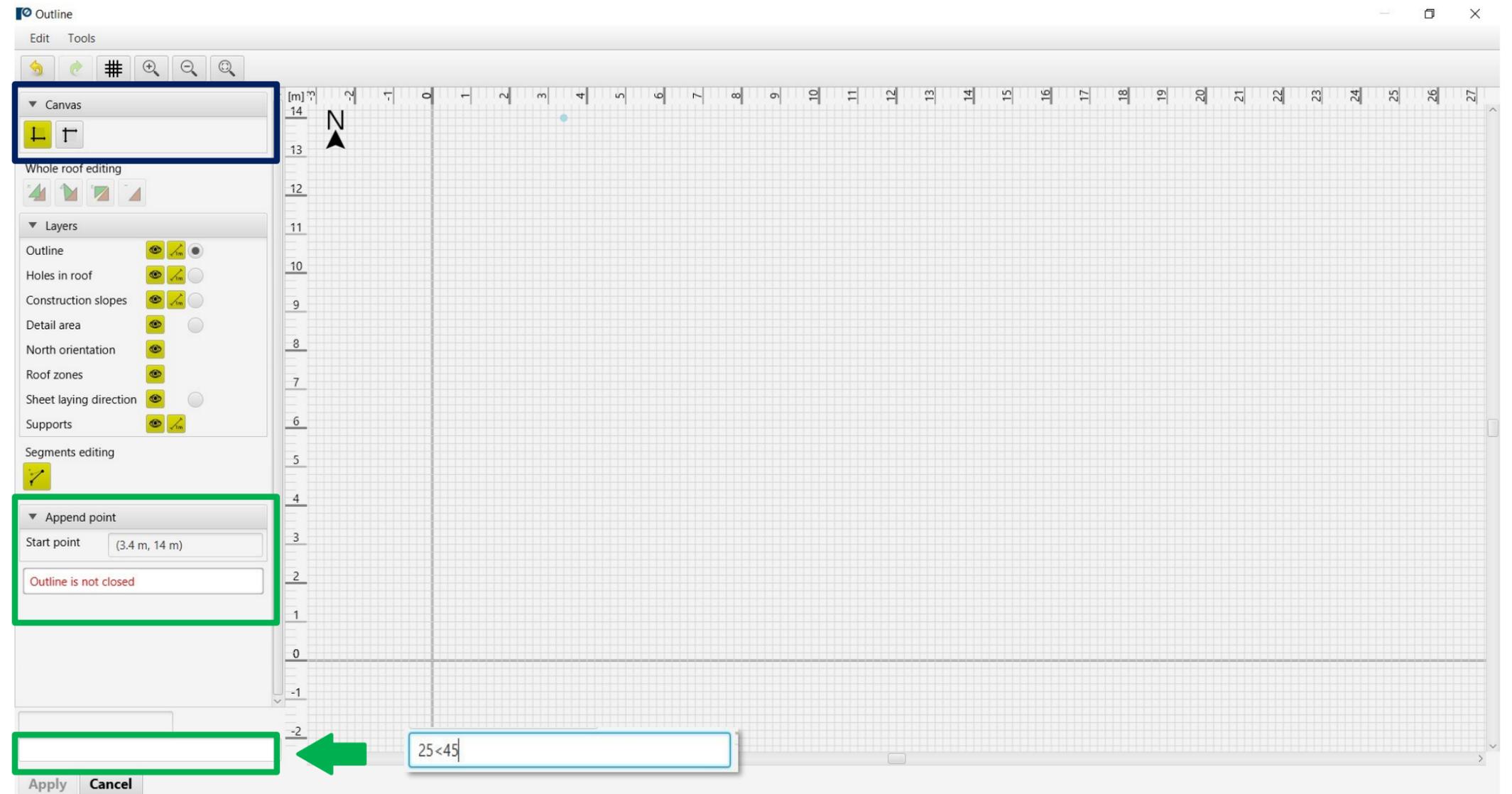
5

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





Wind calculations– modules Roof Sandwich panel

5 Module 0 tab
Roof shape

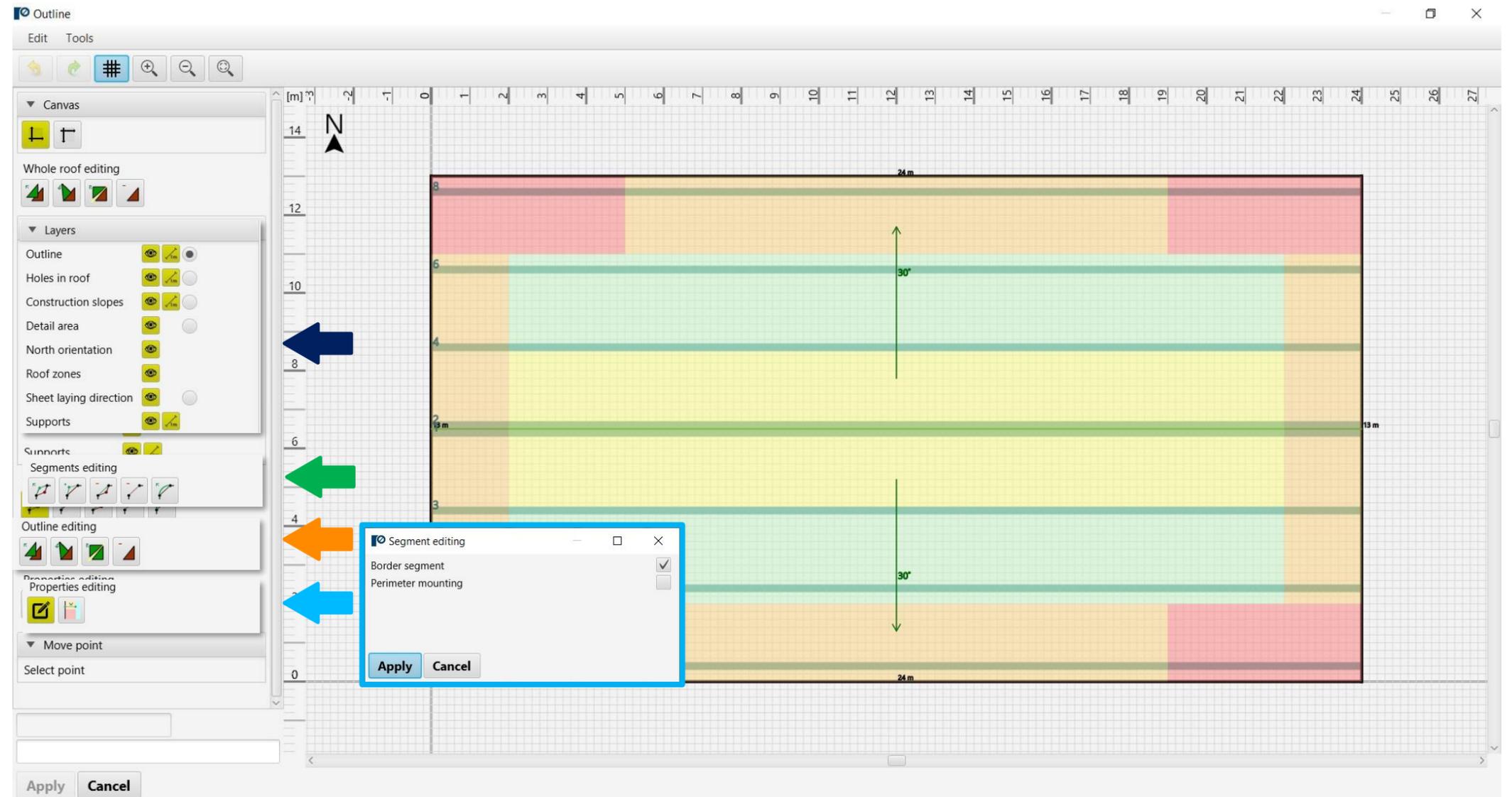
Drawing - Closing the roof area causes the wind zones to be calculated and visualized on the drawing.

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

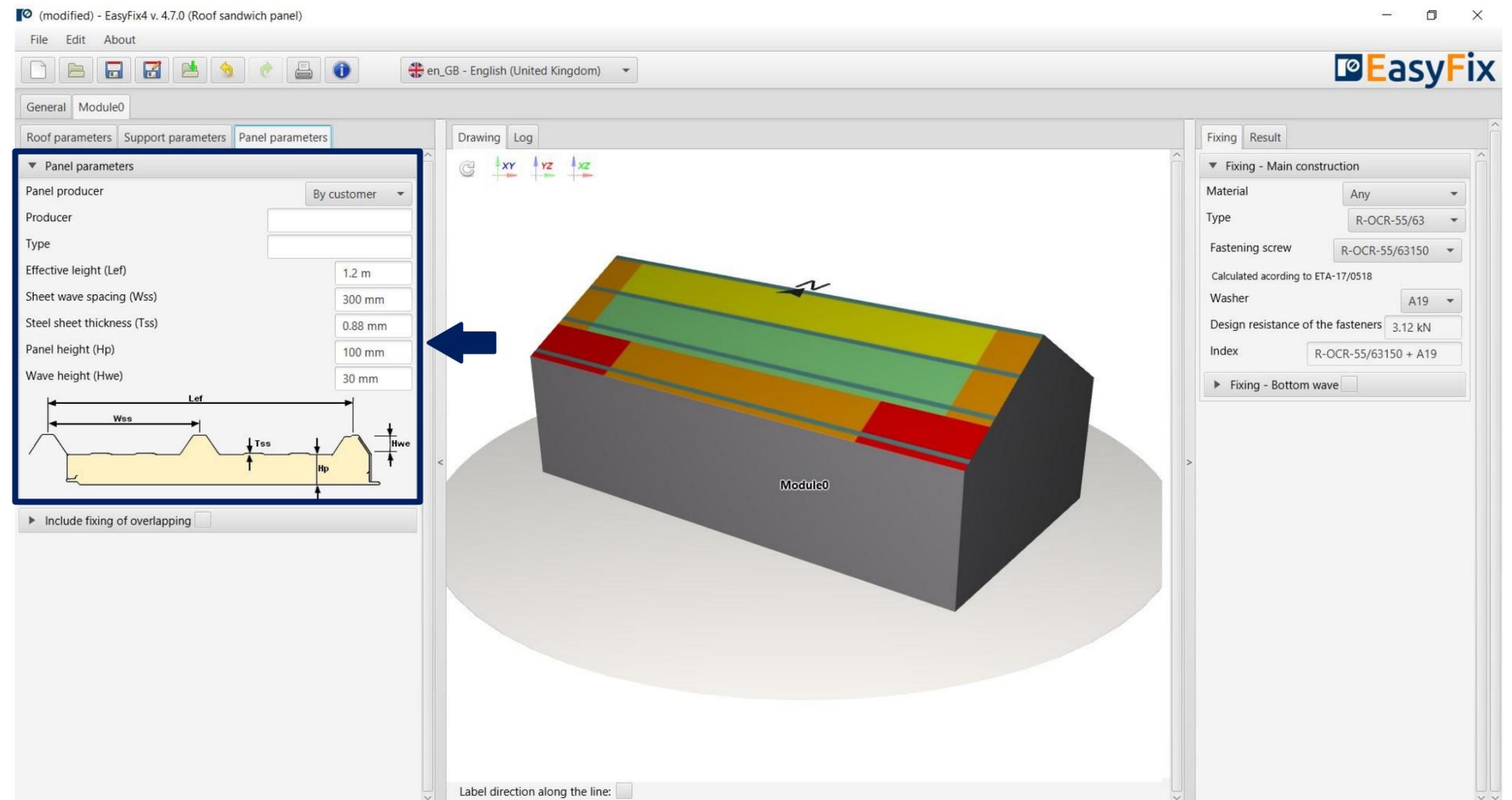




Wind calculations– modules Roof Sandwich panel

6 Module tab - Panel parameters Input area

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





Wind calculations– modules Roof Sandwich panel

7 Model View

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

Steel sheet thickness (Tss) 0.88 mm
Panel height (Hp) 100 mm
Wave height (Hwe) 30 mm

Wss Lef Tss Hp Hwe

Include fixing of overlapping

en_GB - English (United Kingdom) EasyFix

Fixing Result

Fixing - Main construction

Material Any

Type R-OCR-55/63

Fastening screw R-OCR-55/63150

Calculated according to ETA-17/0518

Washer A19

Design resistance of the fasteners 3.12 kN

Index R-OCR-55/63150 + A19

Fixing - Bottom wave

Label direction along the line:



Wind calculations– modules Roof Sandwich panel

8 Tab Connectors Results area

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

The screenshot displays the 'Fixing - Main construction' configuration window in the EasyFix software. The window is divided into several sections:

- Fastener Filter:** A dropdown menu is open, showing a list of fastener types: R-OCR-55/63, R-ONR-55/63, OC-5,5/6,3 T19, OC-5,5/6,3 T16, ON-5,5/6,3 T19, ON-5,5/6,3 T16, OCS-5,5/6,3, and ONS-5,5/6,3.
- Material:** A dropdown menu is open, showing 'Any', 'Stainless steel', and 'Zinc plated steel'.
- Fastening screw:** A dropdown menu is open, showing 'R-OCR-55/63150', 'R-OCR-55/63175', and 'R-OCR-55/63200'.
- Washer:** A dropdown menu is open, showing 'A19' and 'T19'.
- Index:** A text field contains 'R-OCR-55/63150 + A19'.
- Other fields:** 'Material' is set to 'Any', 'Type' is 'R-OCR-55/63', 'Fastening screw' is 'R-OCR-55/63150', 'Calculated according to' is 'ETA-17/0518', 'Design resistance of the fasteners' is '3.12 kN', and 'Washer' is 'A19'.

The background shows a 3D model of a roof sandwich panel with various layers and a fastener being applied. The software interface includes a menu bar (File, Edit, About), a toolbar, and a sidebar with tabs for 'General', 'Module0', 'Roof parameters', and 'Panel parameters'. The 'Panel parameters' section includes fields for 'Panel producer', 'Producer', 'Type', 'Effective leight (Lef)', 'Sheet wave spacing (Wss)', 'Steel sheet thickness (Tss)', 'Panel height (Hp)', and 'Wave height (Hwe)'. A diagram of a roof profile is also visible, with dimensions labeled: Wss, Lef, Tss, Hp, and Hwe.



Wind calculations– modules Roof Sandwich panel

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

Panel parameters

Panel producer: By customer

Producer: []

Type: []

Effective leight (Lef): 1.2 m

Sheet wave spacing (Wss): 300 mm

Steel sheet thickness (Tss): 0.88 mm

Panel height (Hp): 100 mm

Wave height (Hwe): 30 mm

Include fixing of overlapping:

Forces occurring in the zone [kPa]				
Zone F	Zone G	Zone H	Zone J	Zone I
-3.562	-2.936	-1.934	-1.183	-0.431

Zone area [m²]				
Zone F	Zone G	Zone H	Zone J	Zone I
40	92	100	80	0

Number of fixings [pcs.]			
Supports	Zone	Quantity	Utilisation
1	G	1	28.2%
1	J	1	11.4%
2	G	1	28.2%
2	J	1	11.4%
3	G	1	56.5%
3	H	1	37.2%
4	G	1	56.5%
4	H	1	37.2%
5	F - G	1	62.5%
5	F - H	1	52.8%
5	G - H	1	46.8%
6	F - G	1	62.5%
6	F - H	1	52.8%
6	G - H	1	46.8%
7	F	1	47.9%
7	G	1	39.5%
8	F	1	47.9%



Wind calculations– modules Roof Sandwich panel

9 Generation of Printout

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

The screenshot shows the EasyFix v. 4.7.0 interface. The main window displays 'Panel parameters' with the following values:

- Panel producer: By customer
- Producer: [empty]
- Type: [empty]
- Effective leight (Lef): 1.2 m
- Sheet wave spacing (Wss): 300 mm
- Steel sheet thickness (Tss): 0.88 mm
- Panel height (Hp): 100 mm
- Wave height (Hwe): 30 mm

Below the parameters is a technical drawing of a roof sandwich panel with labels: Wss, Lef, Tss, Hp, and Hwe. A blue arrow points to the printer icon in the top toolbar.

The 'Print' dialog box is open, showing the following settings:

- Print language selection: Language: en_GB - English (United Kingdo...)
- Decimal separator: Language based
- System of measurement: Metric
- Custom page numbering: Start from: 1
- Printout layout: Example of distribution fasteners:
- Buttons: Enable all printout sections, Disable all printout sections
- Project information: Name, Subject, Street, City, Code, Notes
- Organization, Calculations made by, Checked by
- Print date: 22.09.2022
- Save as default:
- Comment: [empty text area]
- Print to file: C:\Users\t1sznura\AppData\Local\Temp\easyfix20220922153622.pdf
- Print the document: **Print the document**

In the background, a table shows wind pressure data:

Zone	Zone H	Zone J	Zone I
G	-1.934	-1.183	-0.431
G	100	80	0

Another table shows utilization data:

Zone	Quantity	Utilisation
G	1	28.2%
J	1	11.4%
G	1	28.2%
J	1	11.4%
G	1	56.5%
H	1	37.2%
G	1	56.5%
H	1	37.2%
F - G	1	62.5%
F - H	1	52.8%
G - H	1	46.8%
F - G	1	62.5%
F - H	1	52.8%
G - H	1	46.8%
F	1	47.9%
G	1	39.5%
F	1	47.9%

