

User Manual

FACADE module

Easvfix

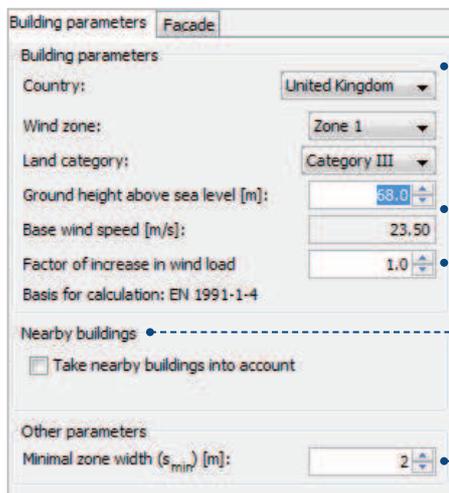
The FACADE module of Rawlplug's EasyFix application is dedicated to calculations aimed at making the most appropriate choice of mechanical fixings for the ETICS wall insulation systems, i.e. lightweight and wet systems, for both masonry and concrete walls. What seems particularly important is that the calculations performed in EasyFix always conform with the EN 1991-1-4 standard on wind actions, and that specific fixing solutions are selected with regard to the ETAG 014 guidelines. However, the primary function of the FACADE module is to enable you to make a model-based choice of the type and number of mechanical fixings for individual wind zones, so that the given project can ultimately be implemented with the focus on utmost efficiency and durability supported by optimisation of installation costs.

The FACADE module contains the following tabs:
Location, Building, Insulation, Fixings and Project details.

EASYFIX

The Location tab features the following items:

Building parameters



1. parameters defining the building location, including country, wind zone, land category and height above sea level
2. option to increase wind load by defining a factor
3. possibility to take the impact of nearby buildings into account by defining their characteristic dimensions
4. possibility to set minimum wind zone width



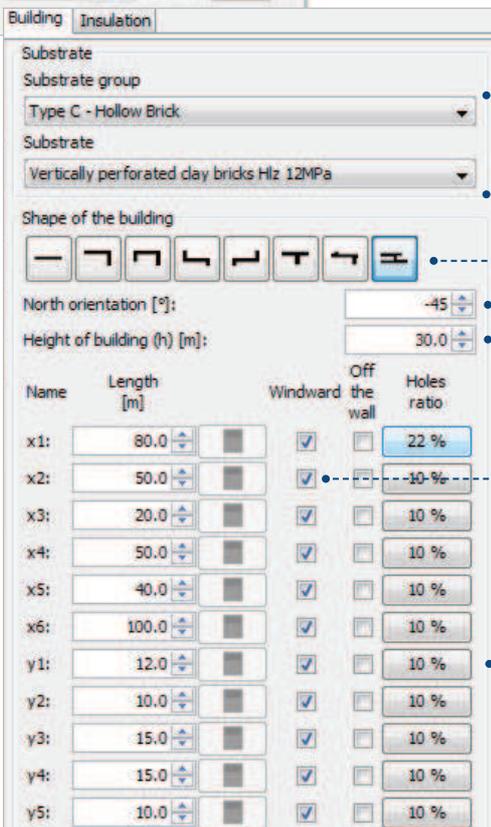
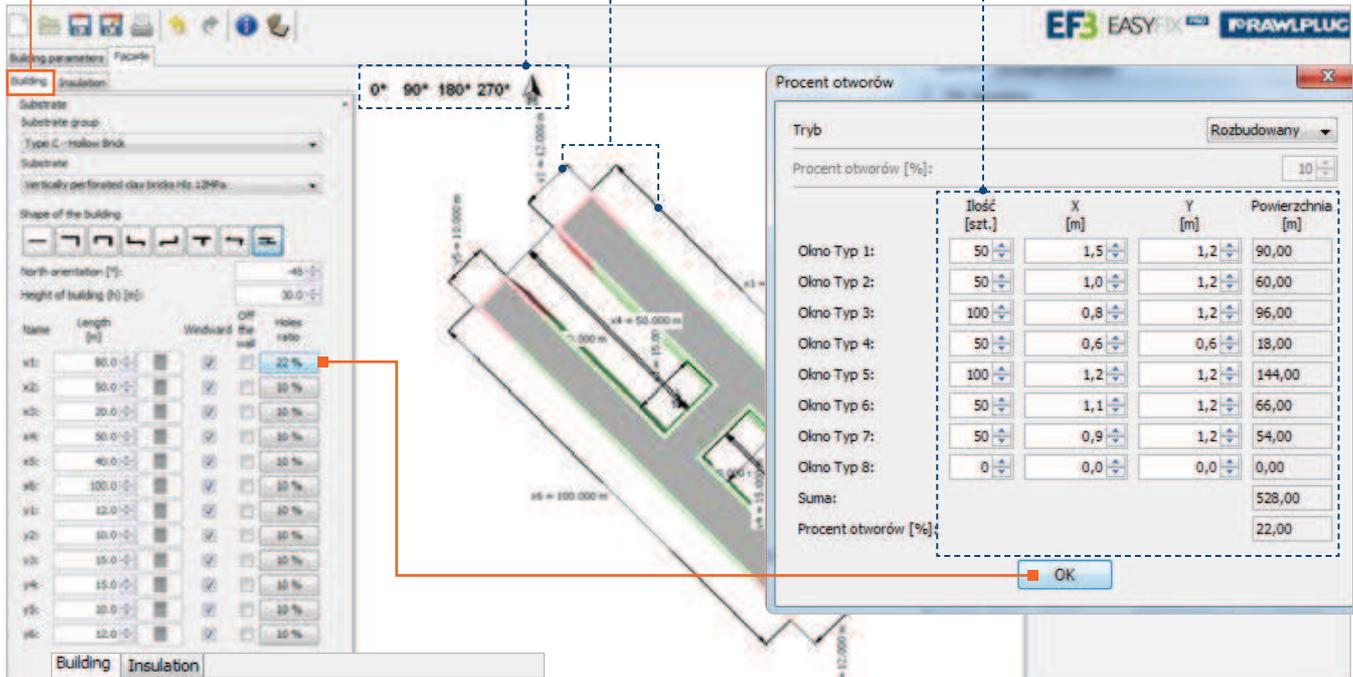
The Building tab features the following options:

Building

4. possibility to rotate the model display and return to original view

5. option to enter data on the model by clicking dimension lines

9. determination of exact percentage share of area attributed to holes by defining dimensions and number of windows



1. substrate choice, both in terms of type and material

2. choice of building shape

3. option to define north orientation (if necessary)

6. option to enter building height

7. possibility to exclude individual walls from direct wind force effect, whereupon the given wall is disregarded in calculation of the total number of fixings

8. defining the share of surface area attributed to holes in per cent

The Insulation tab allows the user to access the following features:

Insulation

- possibility to choose insulation layout
- where homogeneous layout has been selected:

2.1 option to choose insulation type (either polystyrene or stone wool), insulation system and specific polystyrene or wool type

2.2 checkbox that enables pull-through force to be taken into consideration in calculations, if required (for the BSO systems implemented in the program, the relevant values are automatically taken into account as per reference documents)

2.3 option to enter insulation thickness

2.4 checkbox option to select countersunk installation

2.5 option to define thickness of adhesive and old insulation material

Height [m]	Zone A	Zone B	Zone C
20.0 - 30.0	-1.510	-1.007	-0.629
10.0 - 20.0	-1.328	-0.886	-0.554
0.0 - 10.0	-1.041	-0.694	-0.434

Height [m]	Zone A	Zone B	Zone C
20.0 - 30.0	10.1	6.7	6.0
10.0 - 20.0	8.9	6.0	6.0
0.0 - 10.0	6.9	6.0	6.0

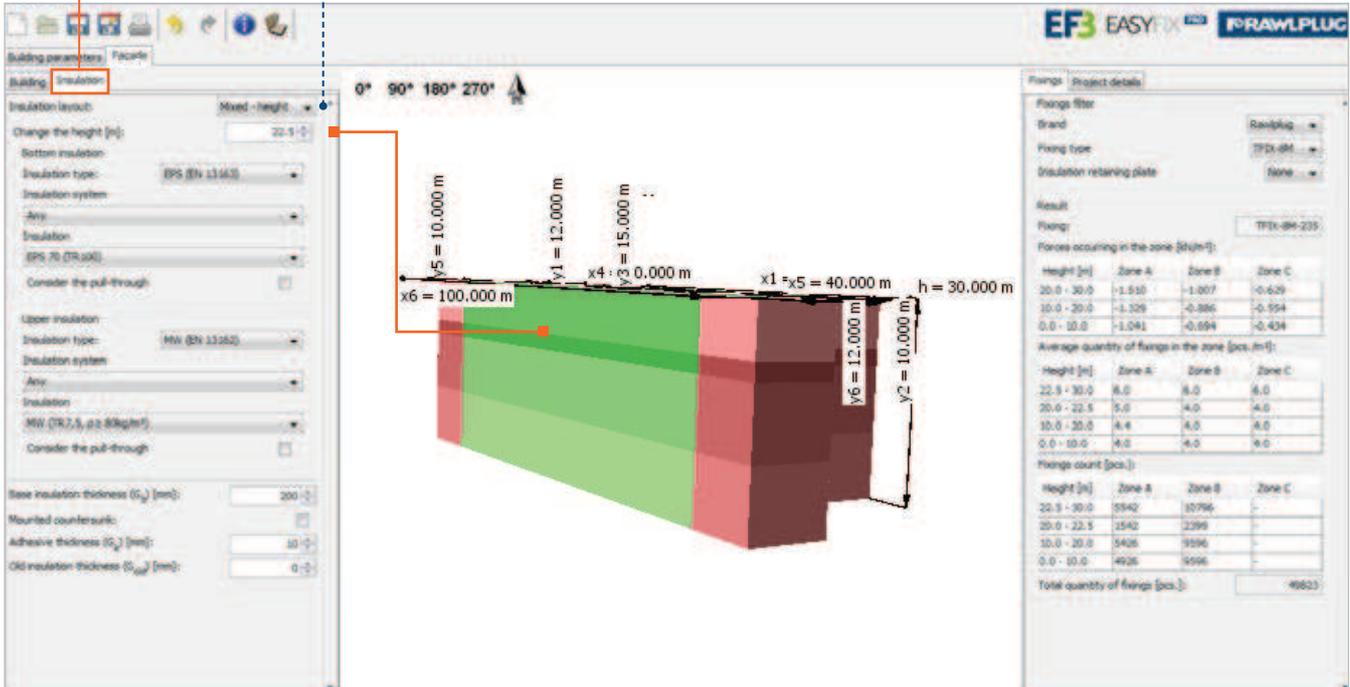
Height [m]	Zone A	Zone B	Zone C
20.0 - 30.0	12440	16076	
10.0 - 20.0	10966	14793	
0.0 - 10.0	8502	14953	

Total quantity of fixings [pcs.]: 36770



Insulation

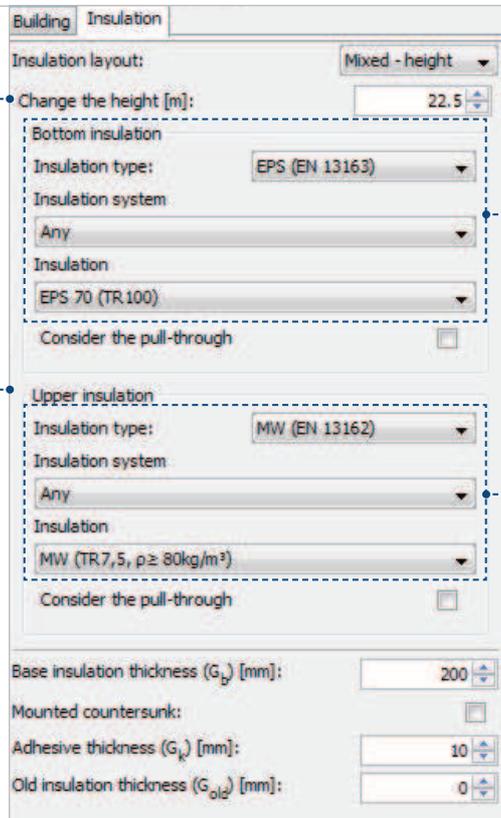
having chosen mixed insulation, you can additionally:



3.1 define two insulation types independently

3.3 define the height at which to change insulation material

3.2 enter characteristic parameters for the given type



Insulation

having chosen mixed insulation, you can additionally:

Wysokość [m]	Strefa A	Strefa B	Strefa C
20,0 - 30,0	-1,006	-1,262	-0,574
10,0 - 20,0	-1,448	-1,136	-0,516
0,0 - 10,0	-1,207	-0,948	-0,431

Building Insulation

Insulation layout: **Mixed - belts**

Width of the belt [m]: 1.0

Belt every [m]: 5.0

First belt [m]: 10.0

Basic insulation

Insulation type: EPS (EN 13163)

Insulation system: Any

Insulation: EPS 70 (TR100)

Consider the pull-through:

Isolation belt

Insulation type: MW (EN 13162)

Insulation system: Any

Insulation: MW (TR7,5, ρ ≥ 80kg/m³)

Consider the pull-through:

Base insulation thickness (G_b) [mm]: 200

Mounted countersunk:

Adhesive thickness (G_a) [mm]: 10

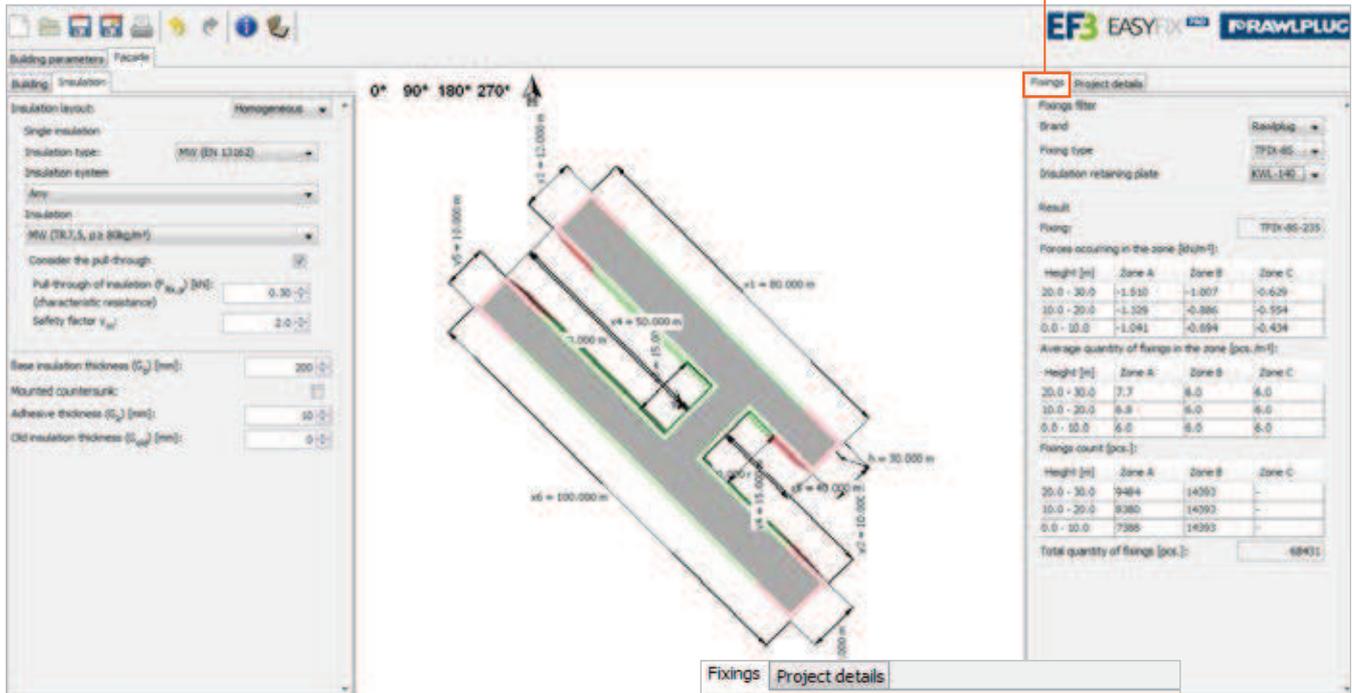
Old insulation thickness (G_{old}) [mm]: 0

3.4 define belt dimensions, spacing and height of the first belt, for systems with fire protection belts



In the Fixings tab, you can:

Fixings



1. select fixing type
2. add retaining plate
3. display results for the chosen fixing
4. calculate forces acting in individual zones at different building heights
5. display minimum number of fixings per zone (pcs./m²) at the given building height
6. display overall number of fixings in individual zones at different building heights as well as total quantity of fixings required

Fixings Project details

Fixings filter

Brand: Rawplug

Fixing type: TFIX-8S

Insulation retaining plate: KWL-140

Result

Fixing: TFIX-8S-235

Forces occurring in the zone [kN/m²]:

Height [m]	Zone A	Zone B	Zone C
20.0 - 30.0	-1.510	-1.007	-0.629
10.0 - 20.0	-1.329	-0.886	-0.554
0.0 - 10.0	-1.041	-0.694	-0.434

Average quantity of fixings in the zone [pcs./m²]:

Height [m]	Zone A	Zone B	Zone C
20.0 - 30.0	7.7	6.0	6.0
10.0 - 20.0	6.8	6.0	6.0
0.0 - 10.0	6.0	6.0	6.0

Fixings count [pcs.]:

Height [m]	Zone A	Zone B	Zone C
20.0 - 30.0	9484	14393	-
10.0 - 20.0	8380	14393	-
0.0 - 10.0	7388	14393	-

Total quantity of fixings [pcs.]: 68431



The Project Details tab allows the user to enter detailed data of the pending design project as well as of the engineering office.

Project properties

1. fields for entering data to identify: design project, engineering office location, designer, reviewer

