



BER Assessors – Dwellings Technical Bulletin

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1 Guidance on DEAP data collection and data entry

1.1 Doors in DEAP

Number of Doors

In DEAP the heat loss through the external doors of a dwelling is accounted for in the Building Elements - Doors tab. One of the fields required is the “Number of Doors” in the dwelling.

For **New Dwellings** this entry is for informational purposes only but should be entered correctly for clarity. The area and U-value of each door affect the calculation and must be entered correctly.

Example

A new dwelling with 2 identical external doors, one at the front and one at the rear. For each door, area = 1.9 m² and U-value = 3 W/m²K.

In this case the door details can be entered in either of the following ways in DEAP:

(i) Doors entered separately:

| Delete | Copy | Number of Doors | Door Description | Area m ² | U-Value [W/m ² K] | AU Value [W/K] |
|--------|------|-----------------|-------------------------|---------------------|------------------------------|----------------|
| X | | 1 | Front door - solid wood | 1.9 | 3.0 | 5.70 |
| X | | 1 | Rear door - solid wood | 1.9 | 3.0 | 5.70 |

Total door area m²

(ii) Doors entered together:

| Delete | Copy | Number of Doors | Door Description | Area m ² | U-Value [W/m ² K] | AU Value [W/K] |
|--------|------|-----------------|---------------------------------|---------------------|------------------------------|----------------|
| X | | 2 | Front & Rear doors - solid wood | 3.8 | 3.0 | 11.40 |

Total door area m²

Doors with different U-values must always be entered separately.

For **Existing Dwellings**, if the Assessor is using the default door area, the “Number of Doors” entry is used to calculate the area of all the external doors in the dwelling based on the default value for a single door of 1.85 m².

Example

An existing dwelling with 2 external wooden doors:

Once the “No. of doors” is entered, the area is automatically calculated using the default value of 1.85 m² per door. This default door area may be used as outlined in DEAP Appendix S. The screenshots below show use of the default area and U-value:

Building element characteristics

Floors | Roofs | Walls | **Doors** | Windows | Heat loss results

Door detail entry

Description: Front & rear doors - solid wood

No. of doors: 2 Area [m²]: 3.70

U-Value [W/m²K]: 3.0 AU [W/K]: 11.10 Add

| Delete | Copy | Number of Doors | Door Description | Area m ² | U-Value [W/m ² K] | AU Value [W/K] |
|--------|------|-----------------|---------------------------------|---------------------|------------------------------|----------------|
| X | | 2 | Front & rear doors - solid wood | 3.7 | 3.0 | 11.10 |

Total door area m²: 3.70

An Assessor may prefer to use the actual door area as calculated from measurements of the door. This is acceptable in DEAP but is not mandatory for existing dwellings.

Solid wooden and PVC doors: U-values

The default U-value for a solid wooden or PVC door is 3 W/m²K.

A non-default door U-value may also be used as long as it is backed up by the appropriate certification as outlined in Section 3.2 of DEAP and the [March 2009 Technical Bulletin BRE 443](#) (Conventions for U-value Calculations) also provides information on door U-value calculation.

Glazed Doors – U-value

In DEAP Section 6.2, a glazed door is one having between 30% and 60% glazing. The default U-value for a solid wood or PVC door is 3 W/m²K. Modern double and triple-glazing has a lower U-value so the presence of glazing may lower the overall U-value of the door. If certified data is not available for the glazed door U-value, it can also be determined using the following formula:

$$U_{door} = \frac{(U_{glass} * \%_{glass}) + (U_{frame} * \%_{frame})}{100}$$

- U_{glass} is the U-value of the glazing, which may be taken from [Table 6a or Table S9](#);
- $\%_{glass}$ is the percentage of glazing in the door;
- U_{frame} is the U-value of the door frame which is taken to be 3 W/m²K;
- $\%_{frame}$ is the percentage of door frame.

Example

A PVC door (area measured to be 1.9 m²) in an existing dwelling has a 0.8 m² of double-glazing, with a manufacturer's date-stamped indicating an installation date of 2005. What is the adjusted U-value of the door?

- $U_{glass} = 2.2$ W/m²K - taken from Table S9,
- $\%_{glass} = 100 * 0.8 / 1.9 = 42.1\%$
- $U_{frame} = 3$ W/m²K, the default U-value for a PVC (or solid wooden) door,
- $\%_{frame} = 100 - 42.1 = 57.9\%$

$$U_{door} = \frac{(2.2 * 42.1) + (3 * 57.9)}{100} = 2.66 \text{ W/m}^2\text{K},$$

1.2 Uninsulated metal garage doors and metal roofs

Uninsulated metal garage doors are common in existing dwellings. These doors are typically made up of sheets of metal only a few millimetres thick. If the garage is included in the Total Floor Area of a BER assessment then the heat loss through the garage door must be accounted for. The default U-value for wooden doors, 3 W/m²K, is not appropriate for an uninsulated sheet metal door.

If no other information to the relevant standards is available for a metal garage door then a default value of 5.9 W/m²K should be used.

A similar situation applies to single-sheet metal roofs. If the roof is part of a room being included in the BER assessment, then heat loss through the roof must be accounted for. Again, such a thin layer of metal will provide little resistance to the flow of heat so in the absence of any other information to the relevant standards, a default value of 7.0 W/m²K should be used.

1.3 Access Corridors acting as a Draught Lobby

Section 2.4 of DEAP states that "Flats with access via an unheated stairwell or corridor should be classified as having a draught lobby". This rule also applies to flats with access via a **heated** stairwell or a **heated** corridor. The key point is that the stairwell or corridor is enclosed thereby providing an airlock on the main entrance to the flat.

1.4 Ventilation from Chimneys

In a BER assessment of a dwelling an open fire could be treated as the primary or secondary space heating system, or it may not make any contribution to the space heating in DEAP, depending on what other heating systems are present in the dwelling.

In cases where the open fire is not considered the primary or secondary space heating system in DEAP, the chimney associated with the open fire will still make a contribution of 40 m³/h to the ventilation of the dwelling in DEAP. For that reason, the chimney associated with an open fire must always be accounted for in the Ventilation section in DEAP unless the chimney is permanently blocked.

In some instances the chimney may be treated as an open flue as detailed in DEAP Section 2.1 and the [April 2009 Technical Bulletin](#) and the [November 2009 Technical Bulletin](#).

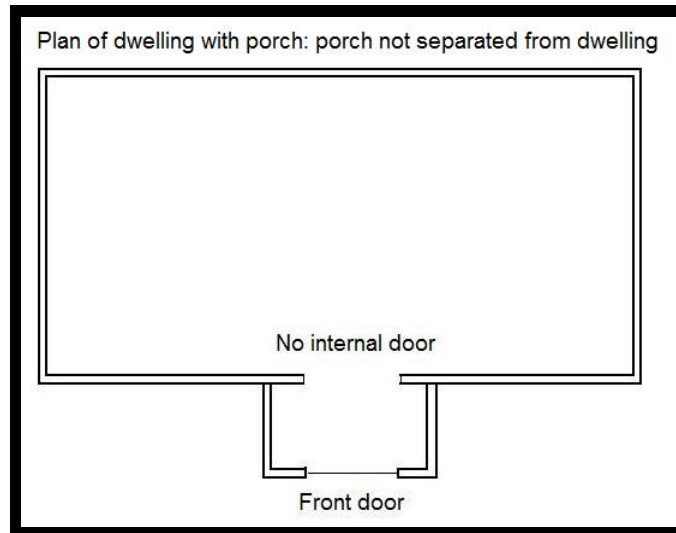
Note that permanent air supply vents in the same room as chimneys, open flues or fixed flueless appliances should not be counted in the DEAP ventilation section. The chimney, flue or fixed flueless appliance should be reflected in the room by room count in the survey form. This air supply is accounted for when the chimney, flue or flueless appliance is entered in DEAP.

1.5 Porches

In the context of DEAP, a porch is a dwelling entrance lobby which protrudes from the line of the external wall of the dwelling.

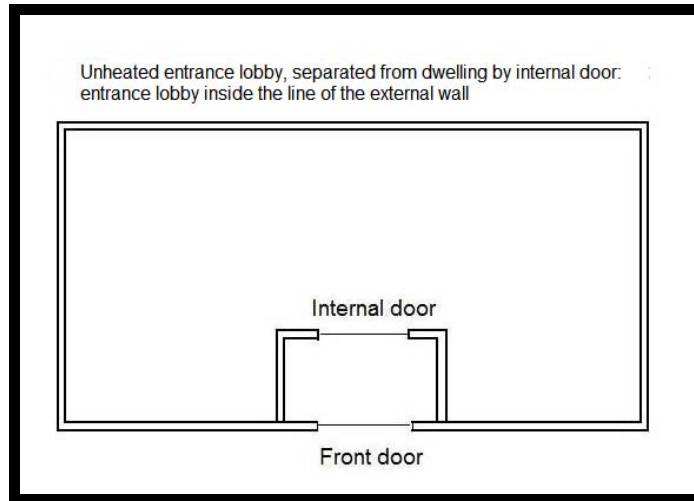
In DEAP, with the above definition in mind, if a porch is heated by a fixed heating device, e.g. a radiator from the dwelling's central heating system or a stand-alone fixed electric heater, then it is **included** in the total floor area of the BER assessment.

If a porch is not separated from the dwelling by an internal door, as shown in the following diagram, it is **included** in the total floor area of the BER assessment even if there are no fixed heating devices in the porch.

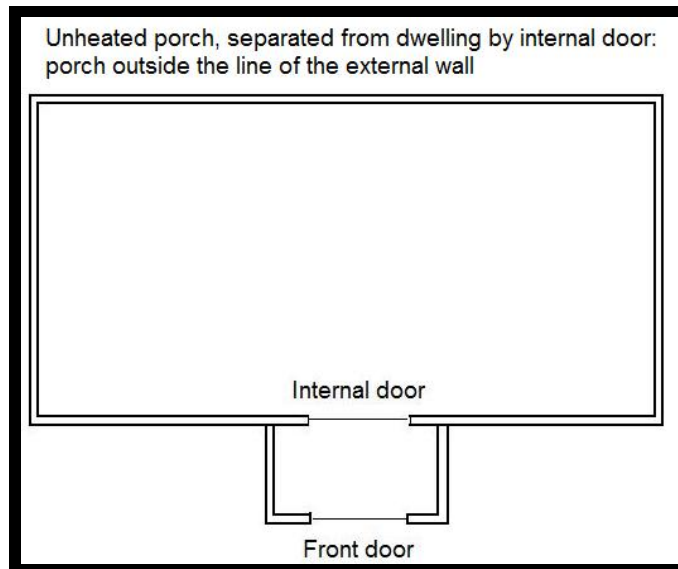


If a porch is unheated and is separated from the interior of the dwelling by a door then it is included in the total floor area if it is within the line of the building envelope and it is excluded from the total floor area if it is fully outside the line of the building envelope. This is detailed in the following examples.

In the example shown in the following diagram, the entrance lobby is unheated and is separated from the rest of the dwelling by an internal door. This entrance lobby is, however, within the line of the building envelope. In DEAP this type of entrance lobby is always **included** in the assessment.



In the next example the porch is again unheated and separated from the dwelling by a door but this time the porch juts out beyond the line of the wall:



In this case the porch is always **excluded** from the assessment.

This rule only applies if the whole of the entrance lobby is outside the line of the wall and is therefore considered a porch in DEAP. If the entrance lobby is not entirely outside the line of the external wall, then the entrance lobby is included in the Total Floor Area of the BER assessment.

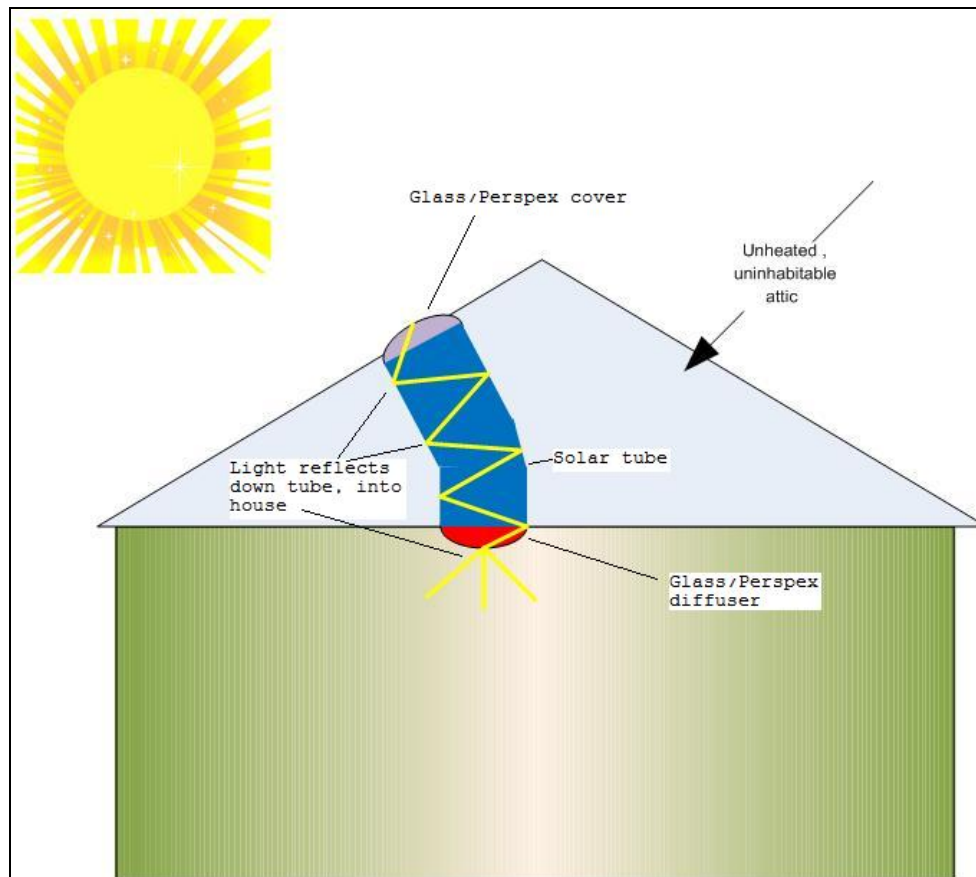
Guidance on inclusion of an entrance lobby in the dwelling floor area is summarised as follows:

| Entrance lobby protrudes from the line of external wall of dwelling: | Entrance lobby heated by a fixed heating device: | Entrance lobby separated from the dwelling by a door: | Include in dwelling floor area? |
|--|--|---|---------------------------------|
| NO | n/a | n/a | YES |
| YES | YES | n/a | YES |
| YES | n/a | NO | YES |
| YES | NO | YES | NO |

The dwelling entrance may still act as a draught lobby (as specified in the DEAP Ventilation tab) even if it is not included in the dwelling floor area, provided it meets the criteria under DEAP manual section 2.4.

1.6 Skylights and solar tubes

In some types of room - e.g. north-facing rooms with external overshadowing, internal corridors in detached bungalows - it is difficult to achieve adequate daylight penetration using windows alone. In this case a rooflight extending to the ceiling below may be used to provide adequate natural lighting. In a dwelling with an uninhabited attic space the light must be transmitted from the rooflight to the ceiling of the living space with minimal losses. To do this a solar tube is installed. This is usually a metal cylinder with a highly reflective internal surface so that as much light as possible is conveyed to the interior of the dwelling as seen in the diagram.



The skylight/solar-tube combination admits natural light to the dwelling so is treated as a window in DEAP. There is glazing/Perspex at the top of the tube to admit light and prevent moisture entering. Usually there is also a layer of glazing or Perspex at the bottom of the tube – the area marked in red in the diagram – which acts as a diffuser, spreading the light evenly through the room. In this case the rooflight is treated as being double-glazed, air-filled, with a gap $\geq 16\text{mm}$.

If there is no glazing/Perspex at the bottom of the tube then only the upper glazing (which could be single, double or triple glazed) is assumed. In addition, the walls of the solar tube are now considered to be part of the thermal envelope and so must be included in “Building Elements – Walls” section. If the tube is cylindrical, the heat loss area of the tube is estimated from the length and diameter of the tube (for a tube with circular cross-section the opaque heat loss area = $\pi \cdot d \cdot l$, where ‘d’ is the diameter and ‘l’ the length of the tube).

Default U-values may be assumed unless the Assessor observes evidence to the contrary during the BER survey. In some cases, the tube may also be rectangular with plastered walls. As always, detailed records of observations and calculations should be made and retained by the Assessor and comments relating to how the solar tube was treated are also recommended.

Example 1

A circular rooflight – diameter 50 cm - is connected to a solar tube – 1.3 m in length - which passes light through a Perspex diffuser into the central corridor of a detached bungalow built in 2002. How is this accounted for in DEAP?

- Window area = $\pi * r^2 = \pi * d^2 / 4 = \pi * (0.5)^2 / 4 = 0.20 \text{ m}^2$.
- U-value: double-glazed, air-filled, gap $\geq 16\text{mm}$: Table 6a gives a U-value = 2.7 W/m²K. The “Roof window” option in DEAP should be selected.

Example 2

A rectangular rooflight opening with dimensions 1m * 0.5m - is connected via an elongated plastered rectangular section, 1.3m long, through an unheated attic passing light into the central corridor of a detached bungalow built in 2002. This elongated rooflight is open at the bottom and has a single glazed external surface.

How is this accounted for in DEAP?

- Window area = 0.5m².
- Window U-value: single-glazed – Table 6a gives a U-value = 4.8 W/m²K. The “Roof window” option in DEAP should be selected.
- Heat loss wall area: i.e. area of plastered section between dwelling and unheated attic = $1.3 * (1+1+0.5+0.5) = 3.9 \text{ m}^2$.
- Wall U-value: built in 2002, default U-value from Table S3 = 0.55 W/m²K. The “Wall is semi-exposed” option should be selected in DEAP as the attic is unheated.

2 Updating published BERs on NAS

Assessors should note that ratings published on the National Administration System (NAS) are generally displayed in descending order of BER Number. In certain circumstances, such as revision of published ratings, the new certificate assumes the same BER Certificate Number and therefore is listed along with the previously uploaded rating. Depending on the dates of the published ratings and the quantity of ratings uploaded by the Assessor the revised rating may appear further down the list or on another page.

To view the latest ratings uploaded, the Assessor can sort the visible ratings on NAS by Date ‘Processed/Issued’ in descending order simply by clicking on the ‘Processed/Issued’ column header. To alternate between date descending and date ascending, the Assessor should click on the ‘Processed/Issued’ column header again. Similarly the Assessor may choose to sort BER Certificates by MPRN, County, Type, etc.

The Assessor should take great care in uploading revised ratings as refunds cannot be issued after accepting the “Publish Rating Confirmation” screen. Each time an Assessor publishes a BER the €25 publication fee will be charged to that Assessor’s account. The NAS Publishing Ratings - Confirmation screen advises the Assessor that:

If you click on the “Publish” option you are accepting responsibility for the accuracy of the assessment. If you opt to proceed with publication you will be advised that you are about to incur a fee. If you click “OK” to this message your assessment will be published and it will:

- *be available for viewing on the Public Register*
- *allow the Assessor to download BER certificates and xmls, and*
- *charge publication fee against the account of the BER Assessor/employer per published rating.*

3 Publishing a BER under the Better Energy Homes scheme

BER Assessors should ensure that the BER assessment for a Better Energy Homes scheme grant application is published immediately after the assessment has been completed. A delay may result in the withdrawal of the homeowner's grant offer **for all measures** if the BER is not published within 6 months of the initial offer. If a BER Assessor feels that the completed works relating to the scheme at the property do not conform to the standards in the [Better Energy Homes Code of Practice and Technical Specifications](#) they are still obliged to carry out the BER but should notify SEAI of their concerns via the Better Energy Homes Helpdesk at 1850 927000 or admin@betterenergyhomes.ie.