



BER Assessors – Dwellings Technical Bulletin

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Sources of information

A large number of queries directed to SEI in relation to dwelling BER assessments can be answered from a number of documents which are readily available to the BER assessor:

All BER assessors must be fully familiar with the **DEAP Manual**. Assessors for existing dwellings must also be fully familiar with the DEAP Survey Guide. These are both available under

http://www.sei.ie/Your_Building/BER/BER_Assessors/Technical/DEAP/DEAP_2008/

In addition to this, a number of frequently asked questions are covered under the **BER FAQ**:

www.sei.ie/berfaq

Any information required on **Building Regulations Part L** (current or previous) can generally be found under <http://www.environ.ie/en/TGD/>

For U-value calculation information, while it is very useful for assessors to purchase the relevant standards, the document **BRE 443** is also an excellent source of information and is available under [http://www.bre.co.uk/filelibrary/rpts/uvalue/BR_443_\(2006_Edition\).pdf](http://www.bre.co.uk/filelibrary/rpts/uvalue/BR_443_(2006_Edition).pdf). CIBSE Guide A (Part 3) is also a very useful source of information.

Building Elements – non default window data entry

Measurements of thermal transmittance (U-value) in the case of doors and windows should be made according to IS EN SO 12567-1. Alternatively, U-values of windows and doors may be calculated using IS EN ISO 10077-1 or IS EN SO 10077-2. A BER assessor may perform these calculations bearing in mind that standards must be adhered to and that all non default data used in calculations must be obtained from accredited sources. These sources can include the Irish Agreement Board (IAB), the British Board of Agreement (BBA) and the British Fenestration Rating Council (BFRC). Table 6a of the DEAP Manual gives values that can be used in the absence of test data or calculated values. All test certificates must be in English or accompanied by an English translation. A value should be selected from Table 6a which corresponds most closely to the description of the actual window. Interpolation should not be used in this table.

When the window U-value is declared by the manufacturer using certified data (rather than from Table 6a) the solar transmittance must also be obtained from certified data. Ensure that such solar transmittance values relate to the glazing, not the whole window. In cases (such as BFRC certificates) where the transmittance for the entire window is given (including frame), then solar transmittance to be entered in DEAP = $g_{\text{glass}} = g_{\text{window}} / \text{Frame Factor}$. Please refer to Table 6b of the DEAP manual.

Distribution loss and gains - gas flue fans

When a gas-fired central heating system is specified, the associated number of gas boiler flue fans must also be entered. Where no gas flue fan is present, substantiating evidence needs to be retained by the BER assessor to this effect. The HARP database is a very useful source for determining the number of gas flue fans. In the absence of supporting evidence the default of one gas flue fan must be entered. Any information (such as that pertaining to flue fans) from the supplier/manufacturer/service engineer should be on headed paper from that source for clarity.

Distribution loss and gains – oil boiler pump

When an oil boiler central heating system is specified, the associated number of oil boiler fuel pumps must also be entered. Most oil boilers contain an internal fuel pump and/or there may also be a fuel pump outside the boiler. All oil fuel pumps must be counted in DEAP for an individual heating system. The boiler specification may indicate the presence of an internal pump. In the absence of this information it must be assumed that the boiler contains a fuel pump.

Room in roof for existing dwellings

The BER FAQ has been updated to provide further detail on the room in roof option for existing dwellings in DEAP under

http://www.sei.ie/Your_Building/BER/BER_FAQ/FAQ_DEAP/Building_Elements/How_do_I_enter_a_“room_in_roof”_in_DEAP_.html.

Electrical immersions and supplementary hot water heating

(1) **What happens when there is no water heating system present?**

As stated in Appendix A of the DEAP manual: "In DEAP a main space heating and main water heating system (and associated fuel for each) must be specified at all times."

If there is no evident source of water heating in the dwelling assume direct electric heating as the main water heater (as specified in table S12 of the manual).

Supplementary water heating is set to "no" in this case and, if there is no storage, enter "no storage losses" under water heating.

(2) **The main water heating system is an electric immersion in a cylinder. What do I do?**

Where an immersion is the main water heater, then the hot water storage temperature factor from table 2 is set to 0.6. When determining the temperature factor multiplier, the immersion will have a built in thermostat, and the timer adjustment does not apply as this is not a boiler/heat pump. Therefore the temperature factor multiplier is set to 1.

The main water heating efficiency is 100% and the main water heating fuel is electricity.

Do not specify supplementary water heating during summer in this scenario.

(3) **The immersion is backup to a main water heating system (other than a heat pump). What do I do?**

Systems where the boiler can supply domestic hot water (DHW) independent of space heating should **not** have "supplementary immersion during summer" specified as outlined in section 4.6 of the DEAP manual.

Systems where the space heating can be switched off without turning off water heating include the following (note that any switches or valves must be accessible by the home owner):

1. Full time and temperature control for DHW separate from space heating
2. Separate zoned time control (DHW separate from space heating) with no temperature control
3. A "summer/winter switch" that either controls a motorized valve or a separate pump for the hot water only to be separated from the space heating
4. Boiler with a time clock and a switch to turn off the heating of the space and not of the DHW
5. Boiler with just a time clock and a manual pipe valve to turn off the heating to the space
6. Room thermostats which can turn off all space heating without affecting water heating.

The following systems should have supplementary immersion during summer entered in DEAP as **"yes"**

1. Individual radiator shut off valves as the only means of switching off space heating.
2. Solid fuel stove with back boiler, or other solid fuel back boiler appliance located in the living space, providing hot water from the back boiler.
3. Boiler with just a single time clock and none of the switches or valves outlined above.

(4) **What about water heating with heat pumps? Is supplementary water heating specified then?**

No – supplementary water heating is not specified in this case. Further information on how to deal with this issue is given in the BER FAQ under

[http://www.sei.ie/Your_Building/BER/BER_FAQ/FAQ_DEAP/Energy_Requirements/Where_a_Heat_Pump_is_used_to_provide_both_space_and_domestic_hot_water_DHW , why is the “Adjusted Efficiency” of the DHW system less than that of the space heating system .html](http://www.sei.ie/Your_Building/BER/BER_FAQ/FAQ_DEAP/Energy_Requirements/Where_a_Heat_Pump_is_used_to_provide_both_space_and_domestic_hot_water_DHW,_why_is_the_“Adjusted_Efficiency”_of_the_DHW_system_less_than_that_of_the_space_heating_system_.html).

(5) **Can solar water heating be specified as the main water heater?**

No – further details are given in the BER FAQ under

[http://www.sei.ie/Your_Building/BER/BER_FAQ/FAQ_DEAP/Water_Heating/What_figure_do_I_enter_for_system_efficiency_in_the_Energy_Requirements_tab_if_my_main_water_heating_system_is_a_solar_water_heater .html](http://www.sei.ie/Your_Building/BER/BER_FAQ/FAQ_DEAP/Water_Heating/What_figure_do_I_enter_for_system_efficiency_in_the_Energy_Requirements_tab_if_my_main_water_heating_system_is_a_solar_water_heater_.html)