



TEACH Passiv

REGISTERED
PRACTICE

2013

RIAI



**CERTIFIED
PASSIVE HOUSE
DESIGNER**

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FACT SHEET No. 11

Case Study 1

UK/Ireland Cavity wall Insulation

Following the *Fundamentals* and *Technical*s Fact Sheets; this is the first of the 'Case Studies' sheets and outlines the similarities and differences between UK Passive Houses and those in Ireland and will commence with cavity wall construction.

The Case Studies we'll look at are Denby Dale and Glocar (you can see a comparison of the similarities & differences of these [HERE](#)) and in each Fact Sheet we'll look at a different aspect and draw comparisons to Irish Passivhaus projects with this sheet specifically on cavity wall insulation.

Both the UK projects use a 300mm cavity with the cavity fully filled with [Knauf Dritherm 37 Cavity Slabs](#) (Denby Dale used 3 x 100mm whereas Glocar uses 2 x 150 for ease of installation). This gives an approximate u-value (based on my own calculations) of 0.11 W/m²K (Conductivity of material 0.037 W/mK.) *Cavity*

Interestingly full full cavity slabs of this type are rarely used in the West of Ireland even though "Earthwool DriTherm Slabs are guaranteed for 50 years to resist the transmission of liquid water from the outer masonry leaf to the inner masonry leaf in new cavity walls"

A popular method of insulating cavity walls in Ireland is via a full fill graphite based expanded polystyrene bead that is pumped into the cavity. For the same cavity width this gives a comparative u-value of 0.10 W/m²K. By reducing the cavity width to 250mm the u-value would only increase to 0.12 W/m²K. (typical conductivity of material 0.033 W/mK.).

A solution to wall ties that cope with this increased cavity width and also has low conductivity to reduce thermal bridging between the masonry leaves is the Ancon TeploTie which is made from pultruded basalt fibres (Conductivity of material 0.7 W/mK as opposed to 17 W/mK for stainless steel wall ties). [DOWNLOAD HERE \(4.1Mb\)](#) on the Ancon wall tie solutions (including TeploTie)

For details on Irish Passivhaus construction methods visit:

<http://www.winkens.ie/lownrghse.htm> by Winkens Architecture

[Passive House Pharmacy](#) by PaulMcNallyArchitect

I would be interested to hear from others/manufacturers that have used or can recommend alternative methods, [CONTACT ME...](#)

