



iBRoad2EPC

TRAINING MODULE FOR CONSTRUCTION PROFESSIONALS

8 – Relationship between building systems building envelope



This project has received funding from the European Union's HORIZON 2020 research and innovation programme
under grant agreement No 101033781

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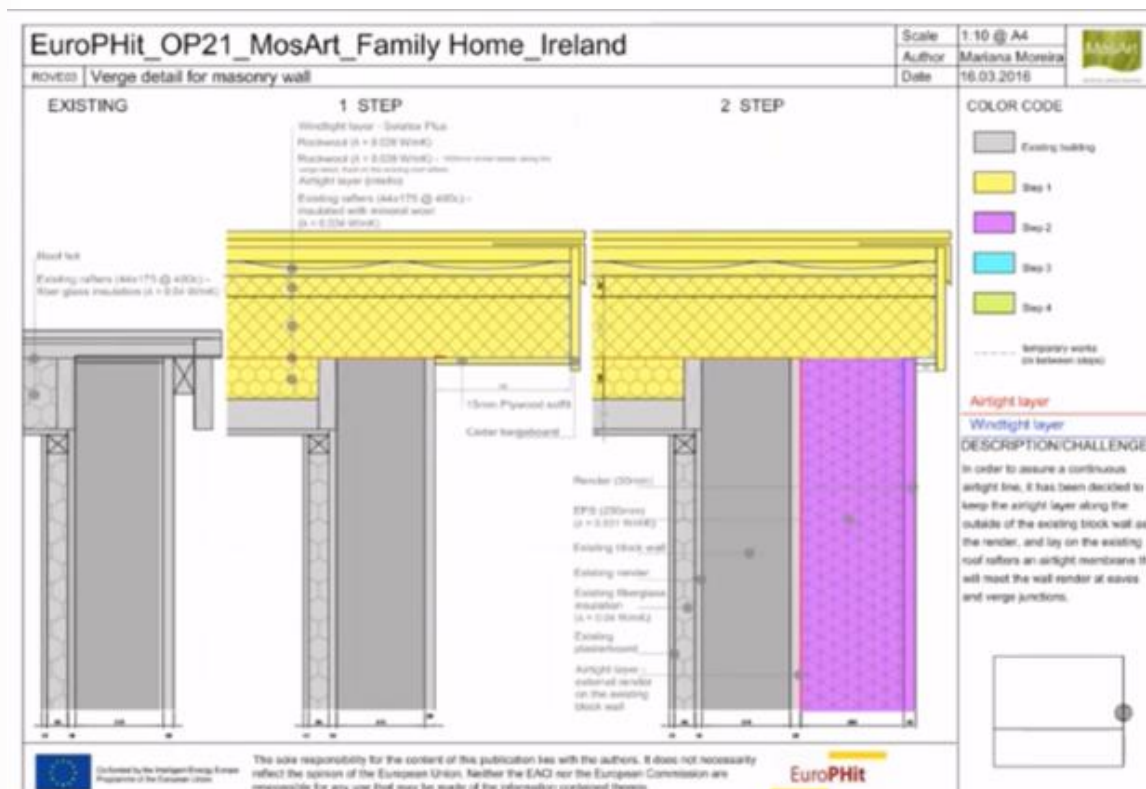




ULO No	Autonomy and Responsibility	Skills	Knowledge
8	Provide conditions and perform potential replacement of the building systems related with insulation and airtightness	Identification of specialists who are expected to intervene in the future implementation of building systems. Avoid damage to the building envelope during future of building systems	Knowledge and understanding of the risks in the future implementation of measures affecting the building envelope

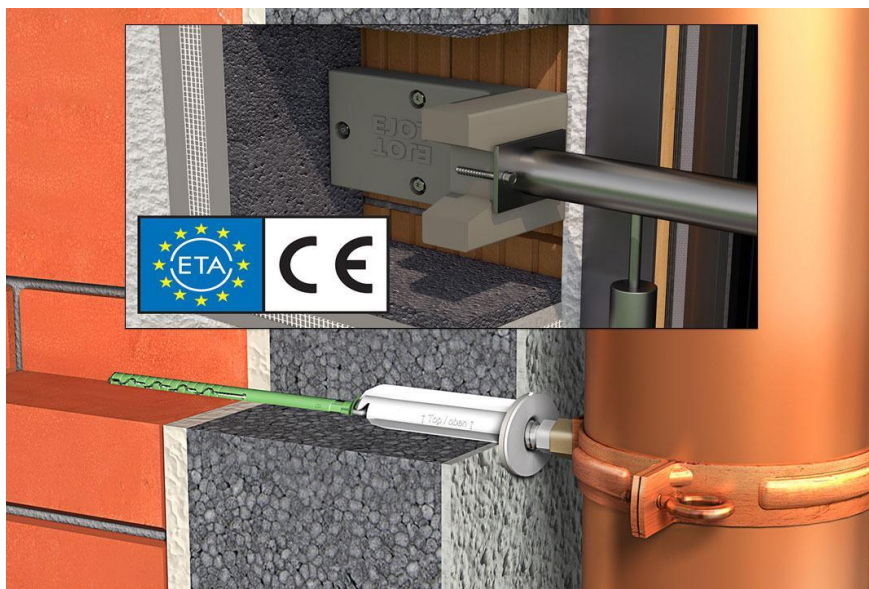
Ensure protection of the measures in future interventions

Specialist responsibility



Ensure protection of the measures in future interventions

.. For future installation of new systems ...



And also, for new components or improvements

Source: <https://rcimag.co.uk/>

What should be first?

Every project is different...

Heating system is probably not the first step!



The ventilation is before or together with the airtightness!

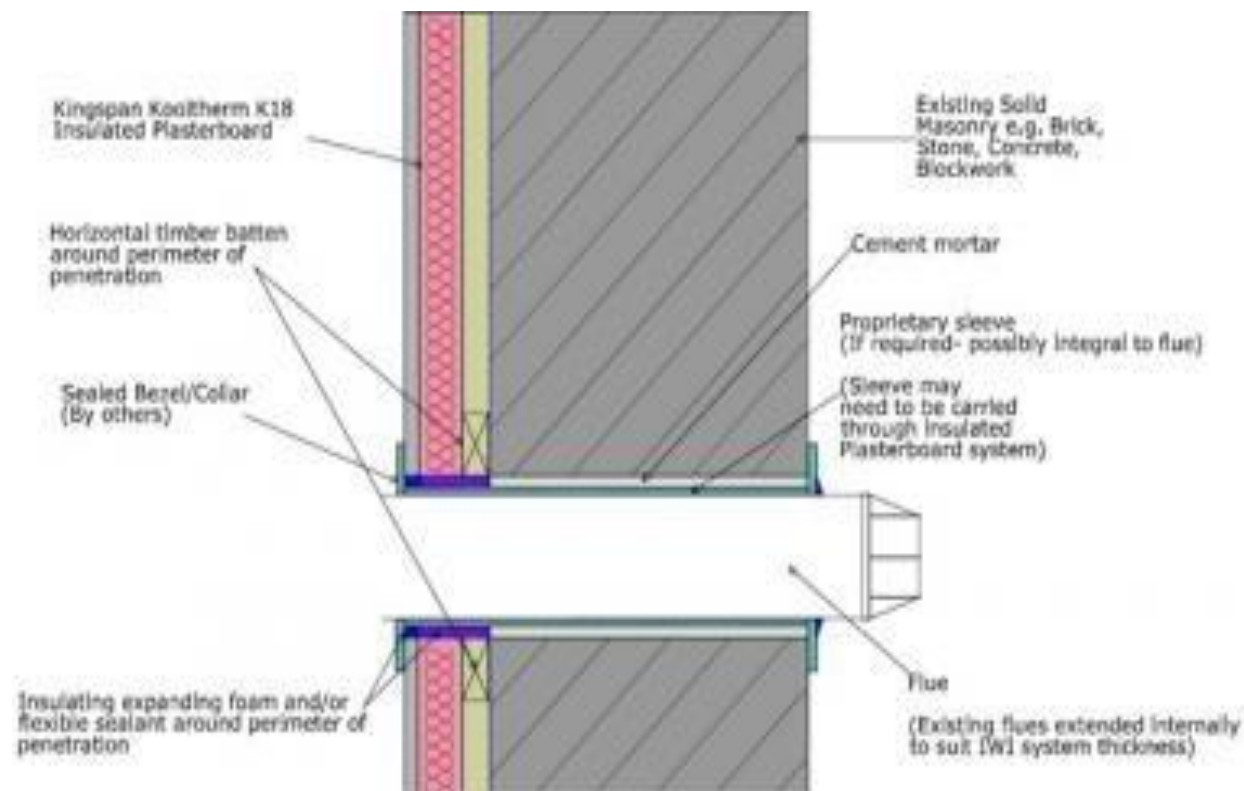
	Heating demand		
Before	90 W/m ²	36 kW	
Step 1	70 W/m ²	28 kW	
Step 2 New heating system	46 W/m ²	19 kW	
Step 3	39 W/m ²	16 kW	

New systems after wall or roof is thermally insulated with airtight layer

Penetrate the construction and the wall during the installation of the thermal insulation and airtight membrane.

Close the hole with proper materials to secure insulation and airtightness of the whole before installation of the new pipe or duct.

Design the installation before start insulation the wall.



New solar collectors on an already renovated roof

Your turn!

...



Source: <https://www.theecoexperts.co.uk/>

Other tips

Construction of an installation box or a room where broken thermal insulation or an airtight layer can be easily restored. This can be achieved, but it is necessary to design it so that the thermal insulation and the airtight layer can be easily restored, and of course this does not deteriorate the waterproofing of the building.



Source: Empowerhouse,
Parsons/Stevens Solar Decathlon 2011

Notes

Be very careful with internal insulation and airtight membranes, the risks of condensation with not properly installed or damaged vapor barrier with internal insulation can cause damage to the insulation and mold and condensation behind the plasterboard.

Always design all the steps before implementing the first one

Think about the next step on the construction side



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Test Questions

1. Indicate the true statements:

- a. When we make an energy renovation plan, we must take into account the intervention of all specialists in the building and each step should be done in such a way that subsequent interventions do not harm the integrity of the renovated elements
- b. Ventilation with recovery is extremely important for renovated buildings and it is good to perform together with or before the airtight envelope
- c. If we plan to install pipes through the building envelope at a later stage, it is not necessary to interfere with the thermal insulation of the external walls

Thank you
for your time and collaboration

Name
email

For more information, please
visit www.ibroad2epc.eu



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