

# ERNELEY CLOSE

## THE PASSIVHAUS ENERPHIT PROJECT FROM A CONTRACTOR'S PERSPECTIVE

# TOPICS COVERED

- TRAINING
- SUPERVISION
- QUALITY CONTROL
- INSTALLATION OF TAPES, BARRIERS ETC
- RECORDS / EVIDENCE
- AIR TIGHTNESS TESTING
- LESSONS LEARNED



# TRAINING

## COURSES AVAILABLE

The contracts manager, site manager, airtightness champion, and any specific trades foremen need to have at least been on the Passivhaus Introduction Course, and at least one member of the team should have been on the Certified Tradesman Course.

The airtightness champion should be site based.

There should be a training session on site for all others who will be involved with the installation of insulation, membranes etc.

Manufacturers of the membranes, tapes etc. and MVHR will normally come to site to do demonstrations etc.

Demonstrations and completion of sample areas will help.





# SUPERVISION

- Ensure that sufficient resources are made available to monitor the main aspects of the Passivhaus Construction. Insulation, Cold bridging details, Airtightness and Windtightness.
- The completion of the test and inspection sheets and the photography of all the various phases is time consuming, but important.
- These are not normal levels of supervision, these are enhanced levels of supervision.
- Ensure that supervisors are covered during holidays and any periods of illness by staff who have been suitably trained.





# QUALITY CONTROL

- Project and detailed quality
- Test and Inspection
- Regular quality reviews at site meetings
- Visits by specialist suppliers to review quality
- Proactive participation by subcontractors



## INSTALLATION OF TAPES, MEMBRANES ETC.

- Work areas to be clear of debris and clean.
- Work areas to be dry.
- Avoid creases, tears etc.
- Depending on the substrate use appropriate surface cleaners before applying tapes.
- If in doubt do samples and test.
- Concentrate on the awkward areas, junctions, changes of direction, changes of substrate.
- Choose those tasked with doing this work carefully, and beware of productivity incentives.





## AIRTIGHTNESS TESTING

- Choose at a very early stage the external specialist engineer who is going to be doing the air tightness testing. This individual will play a very important role.
- The criteria for selecting this individual should veer more towards experience and the ability to provide advice when there are problems as opposed to price.
- This individual needs to work very closely with the AT champion.
- There should be at least three tests per unit.
- First Test when all membranes and seals are in place, but all areas accessible. Second Test when all finishings are complete. Final Test is the acceptance test.
- After all the tests ensure that grommets and seals are not disturbed.



## LESSONS LEARNED

- The partnering approach is important.
- The airtightness site team should be well looked after.
- If anything is unclear ask, and don't assume.
- The programme should include for sufficient time for testing and re-testing.
- Consider carefully whether it is wise to have operatives on productivity incentives for the crucial elements ñ temptation for shortcuts to be taken!
- Aim for a better target than the minimum of 1 ACH.
- Carefully consider at Design Stage how air leakage routes through party walls can be sealed. Between floors, behind stairs, junctions with internal walls, electrical sockets etc.





# Thank you

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