



Earth Cycle Technologies

Certification, Consultancy & Pre-Certification Inception Booklet

For Certification of Passive House Buildings

The Passive House Standard(s)

The Passive House Standard(s) are Certification Standard(s) that ensure the thermal optimum performance for all climates in every given situation. There are 3 tiers to the standards for different situations and 2 further sub tiers for renewable technologies.

1. Passive House Standard - Classic/Plus/Premium
2. EnerPHit Retrofit Standard - Classic/Plus/Premium
3. Passive House Low Energy Building Standard

Passive House Standard

The Passive House Standard is an energy standard that requires a compact design with intelligent window placement, intelligent use of shades, high performance components such as ventilation, heating, hot water and cooling systems, an excellent airtightness of 0.6 air changes and most of all; a Building Fabric; free of thermal bridging, highly insulated and moisture safe. The targets for Passive House can be seen in table 1. These are not easy to achieve in all cases and so the preceding standards also exist;

EnerPHit Retrofit Standard

This standard holds all the characteristics of the Passive House Standard but the targets for compliance are adjusted based on the buildings characteristics and strategy for retrofit. This is to allow for the restrictions that exist in a situation where an existing building is upgraded. For instance, a retrofitted building may have an unfavourable shading situation, unavoidable thermal bridges that can not be ruled out or inadequate ceiling heights for implementation of centralized ventilation. You may also have instances of internal insulation where the level of thermal protection must be lessened to achieve moisture protection. This can also be certified as an EnerPHit “Interior” Retrofit.

PHI Low Energy Building Standard

In some instances, the same restrictions apply for existing sites as well where you have new builds in urban environments where the shading is not ideal or planning restrictions require a certain design or even if you just fall short for any other reason, you can still have your building certified as a PHI Low Energy Building.

Regardless of the standards the certification process is also very much the same. Exclusively to Earth Cycle customers we have an online course that explains this process in detailed tutorial videos. What's more we not only certify, but consult, assess moisture, calculate thermal bridges and even more we have courses both published and, in the pipeline, to assist consultants or architects with all aspects of the calculation and design.

For more details see the training section on www.earthcycle.co

Passive House Standards Criteria

A rough guide to the targets for each standard is outlined in the following table 1. However, for projects with special circumstances or different climates this will change, and a feasibility model is at least needed to determine all targets. This is because most targets are variable in the PHPP (Passive House Planning Package) and can only be determined specific to a project.

	Heat Demand	Heat Load	Airtightness	kWh/m2a				Generation
				Usage	Usage	Usage	Usage	
	kWh/m2a	W/m2	h-1	Classic	Plus		Premium	
Passive House	15	10	0.6	60	45	60	30	120
EnerPHit	25	-	1	60	45	60	30	120
PHI Low Energy Building	30	-	1	75	Plus/Premium Not Available Yet			

Full Criteria is available on;

https://passiv.de/downloads/03_building_criteria_en.pdf

The Four Stages Passive House Certification

The five Stages of any Passive House Certification are;

1. Consultancy/Design Stage Assurance/Pre-certification
2. Thermal Bridging (if you cannot we can provide/farm out)
3. Filing For Certification (Consultant)
4. Certification (by separate body to consultant/designer)

If Earth Cycle is working on any part of the design (detailing, thermal bridging/design PHPP) Then we cannot act as the certifier.

However, if we become involved with the design, we have sub consultants who can cover any of the other aspects of the project for the exact same fee's.

What We Do!

Consultancy – Design Stage Assurance – Pre-Certification

In the initial stages we will take your design and;

1. Model/Remodel Using DesignPH
2. Report results for Space Heat Demand, Heat Load, Overheating, Final Energy and Primary Energy
3. Give a qualitative overview of construction details

4. Give an overview of Ventilation
5. An overview of mechanical Systems/PV/Solar
6. Report all results including specifications or documentation assumed.

The deliverables for this stage are a specification report and a printed pdf of the calculations and specifications assumed including

- a) U-values for fabric
- b) Review notes on detailing
- c) Window specifications
- d) Ventilation specifications
- e) Mechanical overview

Optional / Additional Services

Ventilation Layouts – Ventilation Layouts for single family units are normally carried out by the mechanical engineer however if you need a fully dimensioned and labelled with all parts, we can provide this for 650 € + VAT/Taxes.

Construction Detailing – If construction details are needed these can be provided for 2250 € + VAT/Taxes for any single-family dwelling.

Moisture Movement – WUFI and Glasier moisture checks can be provided for 950 € + VAT/Taxes per assembly.

Fees for any given stage

For stages 1-4 of the above scenarios the fees are calculated for a single-family house based on requirements using the “certification application form” on www.earthcycle.co/certification

For Thermal Bridging there is a calculator in the thermal bridging section of www.earthcycle.co This is capped at 1750€ + VAT/Taxes for all critical details in single-family residences. A further cap of an additional 750€ + VAT/Taxes can be added for Part L compliant conversion of the details for use in y-values for BER ratings.

Fees for commercial/large scale residential are calculated on specific basis and detailed in appendix A at the foot of this document.

Payments for any given stage are issued as follows;

- 25% inception deposit before commencement
- A further 50% upon and before issue of the first full review
- Final 25% to finalize

Payments for each stage are due before issuing but on completion of the task. We will not issue reports or deliverables until payment is processed.

For any given task we allow one revision. After that any further revisions are charged at 65 € / hr Plus VAT/Taxes.

Stage 1 Consultancy – Initial Items Needed

To commence we will need;

- A Google map link to the site location,
- Photographs of the surroundings,
- A Site Plan Site Showing Surrounding Buildings, tree's hedges with heights,
- Any products or idea's you have for building fabric, windows and doors/mech/vent,
- The Building Elevations and Sections, and,
- All Floor Plans,

We will then take this and create a PHPP model to determine or evaluate;

- The specification needed to meet the target standard
- An overview of Overheating
- An overview of Primary Energy
- A review of the construction details (qualitative thermal bridging needed also)
- A review of Ventilation
- A review of Mechanicals

We will report all and once complete & invoice for the given stage.

Stage 2 Thermal Bridging – Initial Items Needed

Items Needed

To commence we will need;

1. Drawings for ALL relevant junctions of the thermal envelope, these need to have;
 - 1.1 All elements and materials clearly annotated and dimensioned
 - 1.2 Centres of Studs
 - 1.3 Gauges of Steel Studs or Thickness in mm
 - 1.4 Centres of Timbers
 - 1.5 Thickness of Timbers in all directions
 - 1.6 Position of Membranes and Flashings (Highlighted with colour to make extremely clear)
 - 1.7 DXF/DWG and PDF needed
2. Confirmation that You have reviewed and provided all details for Your project, and,
3. Technical Data sheets stating thermal conductivity of the materials used.

Stage 3 Final Certification - Items Needed

The final Certification is filed on the PHI certification Platform. This is normally part carried out at the consultancy stage once the process has been carried out.

There are 9 Sections to fill out in an accordion type of system with a green, orange and red-light system.

Green being complete, orange under review and red for outstanding. Under each section there are sub sections for entry of documents to the relevant parts of that section.

▶ ✖ 1. Passive House Planning Package (PHPP)
▶ ✖ 2. Planning documents for architecture
▶ ✖ 3. Standard and connection details
▶ ✖ 4. Windows/doors
▶ ✖ 5. Ventilation
▶ ✖ 6. Heating/ Cooling + Plumbing
▶ ✖ 7. Electricity
▶ ✖ 8. Renewable energy
▶ ✖ 9. Construction phase

The current certification criteria (current version attached) detail all items needed to file the certification however, here at Earth Cycle, we also give a Certification online course which is only 1 hour of video content that will explain the type of information needed and what it looks like. This comes with a sample of all information needed and makes the process a lot smoother and easier. The course is exclusive to only our customers.

Once all are filled the project is manually sent to PHI for checking and within 3-5 days an ID for the project is issued which can be used to print the certificate.

Revisions, Updates & Additional Consultancies

For any given task we allow one revision. After that any further revisions are charged at 65 € / hr Plus VAT/Taxes (agreed in advance but before continuing). If a situation arises where revisions are needed, and this is not agreed the project can be discontinued. You can decide to opt out at any given stage once payments are up to date for that part.

Ventilation Schematics/Construction Detailing/General Design/Air sealing Assistance and anything outside of the above scope is charged at an hourly rate and agreed in advance.



Commencing Works

Should you wish to commence, all that is required is the 25% commencement fee, the fee calculator and the below signed document.

I.....Homeowner of project addressed.....

Agree to the above terms conditions and fee's for our project at.....

..... and the appendix A dated.....

Signed.....

And

IOfConsultant for the project
addressed.....

.....have read all the required
documentation in this booklet and agree to submit all information needed for certification.

Signed.....

Many thanks for your custom.



Earth Cycle Technologies

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