

Building Compliance
Consultancy • Calculations • Testing

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SmartHTC

FAQs



ATSPACE

DELIVERING BEYOND COMPLIANCE



SmartHTC

FAQs

1. What are HTC and HLP (in plain English)?

HTC (Heat Transfer Coefficient) is a wholebuilding measure of how much heat a building loses through its fabric and air leakage per degree of temperature difference (i.e. overall heat loss).

HLP (Heat Loss Parameter) is the HTC normalised by floor area, which makes it easier to compare different sized homes.

In general: lower HTC/HLP = lower heat loss = better thermal performance.

2. Does the HTC/HLP directly affect the SAP score or EPC rating?

Indirectly / for comparison – but not in the way people often assume.

- In a full SAP calculation, a designed HTC is calculated as part of the worksheet (commonly referenced as Field 39 and 40 on a SAP worksheet).
- A key use of SmartHTC is to compare the designed/asbuilt HTC against the measured HTC, similar to how airtightness testing compares designed vs measured performance.

Important: You generally cannot override the SAP calculation with a measured HTC value and formally lodge it for an EPC. However:

- In Elmhurst Design SAP 10, you can input the measured HTC to see what it does to rating, running costs, CO₂ emissions, etc. (even if it can't be lodged as the official EPC output).
- If you want to present a result based on measured performance rather than a lodged EPC, an alternative output could be an EPR (Energy Performance Report) rather than an EPC.

3. How does SmartHTC help with ASHP sizing (HTC/HLP vs peak heat load)?

The SmartHTC measured HTC report also provides a peak heat load figure.

That peak heat load figure is effectively:

- the smallest viable ASHP capacity to meet demand, and
- a good basis for efficient system sizing (avoiding unnecessary oversizing N.B. you need to account for the confidence interval).

4. Can a SmartHTC test be carried out on a building site with no heating system installed?

Yes – an HTC test can be carried out even if the building has no permanent heating system installed. The building must be heated to create the required temperature difference (typically a 7°C uplift), but this can be achieved using portable electric heaters.

The practicality and cost of this approach will depend on the building's size and insulation levels. For example, a low-energy new build will require far less temporary heating than a large, poorly insulated property. The heaters should be powered from the building's own mains supply so their energy use can be accurately metered as part of the test.

5. For existing homes, how accurate does my 'estimated HTC' need to be?

You don't need to be overly granular, and you're not 'breaking' the measurement if your estimate is imperfect.

- Inputting a designed/estimated HTC into SmartHTC has no impact on the measured result.
- The estimate exists mainly to help the report recipient see the difference between expected (estimated) vs measured reality.

For existing buildings:

- You can only estimate because details like wall buildups, insulation thickness, glazing spec, and door age can be uncertain.
- SmartHTC includes an HTC Estimator tool (in the portal under Tools) to populate with best guess assumptions.

This is comparable to what retrofit assessors / building surveyors / DEAs typically do – they aren't coredrilling walls or measuring every Uvalue on site.

6. Is there a way to apply 'uncertainty percentages' to the estimate?

Not required for the measurement. Because the estimate doesn't change the measured HTC, the aim is simply to provide a reasonable benchmark for comparison. If you're close-but-not-exact, it still serves the purpose: highlighting whether the building is performing broadly as expected, or significantly underperforming. The HTC reading does have a confidence interval that is noted on the final report.





7. I entered an AP50 (airtightness) value, but it showed blank on the report – why?

This usually happens when building volume hasn't been entered.

To use AP50 correctly in the report, you need:

- The measured air permeability value (AP50), and
- The building volume.

If volume is missing, the AP50 line will not populate.

8. Is there a lodgement fee per building or per report?

No lodgement fee (based on the notes provided). Instead, SmartHTC uses a building credit model, 1 house/address = 1 credit. Credits are typically billed in arrears at the PAYG rate unless you're on a bundle.

- £30 per building (PAYG)
- £10 per building credit if purchasing bundles of 100 (i.e. £1,000 total)

A building credit is essentially per address, per year. So you can run multiple calculations on the same building over the next 12 months and it still counts as one credit. Each new building/address you create and run a calculation on counts as another credit.

9. What's the typical market price to charge customers for this service?

It varies a lot (similar to airtightness testing) depending on:

- Number of plots
- Location
- Access
- Travel time
- Whether it's bundled with other testing (airtightness, ventilation, etc.).

Very rough guide:

- Typical charges seen: ~£200–£500 per building, sometimes more when bundled with other services.

Another way to think about it operationally:

- Deploying loggers and recovering them ~3 weeks later usually means two site visits.
- Workload can feel similar to an rdSAP job.
- A rough internal "base cost" starting point might be ~£100–£150, but it's highly dependent on how many plots you can cluster to reduce travel time and cost.



10. What is the relationship between Heat Transfer Coefficient (HTC) and peak heat demand?

Peak heat demand has a direct, linear relationship with the Heat Transfer Coefficient. The formula is:

Peak Heat Demand = HTC × (Design Internal Temperature – Design External Temperature)

For example:

- Measured HTC: 100 W/K
- Internal design temperature: 21°C
- External design temperature: –5°C
- Temperature difference: 26°C

So: $100 \times 26 = 2,600$ W, or 2.6 kW peak heat demand.

11. Which HTC value in SAP should be used as the design HTC?

Use the HTC figure from the 'Calculation of Dwelling Emissions for Regulations Compliance' section.

12. Can a measured HTC be entered directly into Elmhurst Design SAP?

Yes. Elmhurst's Design SAP software allows you to manually input a measured HTC value. This enables you to generate an EPR (not a lodged EPC) showing how running costs, emissions, and the SAP rating change when using actual measured performance instead of the calculated HTC. To do this, select 'HTC' as the calculation type under the Details tab. After that, a field will appear that allows you to enter the measured HTC directly.



13. What is the difference between an EPC and an EPR?

EPC vs EPR (Residential Energy Performance)

EPC – Energy Performance Certificate

An EPC is the familiar, legally required certificate that rates a dwelling from A–G based on its energy efficiency. It is needed when a home is sold, rented, or newly built, and is lodged on the national EPC Register.

The EPC includes:

- Current and potential Energy Efficiency Rating
- Estimated running costs
- CO₂ emissions
- Recommendations for improvement

EPCs are valid for 10 years and must be prepared by an accredited Domestic Energy Assessor.

EPR – Energy Performance Report

An EPR is also produced using the same assessment procedure (RdSAP for existing dwellings), but it is not a legal document and does not need to be lodged on the national EPC Register.

Most importantly:

What is the difference? Both EPC and EPR show:

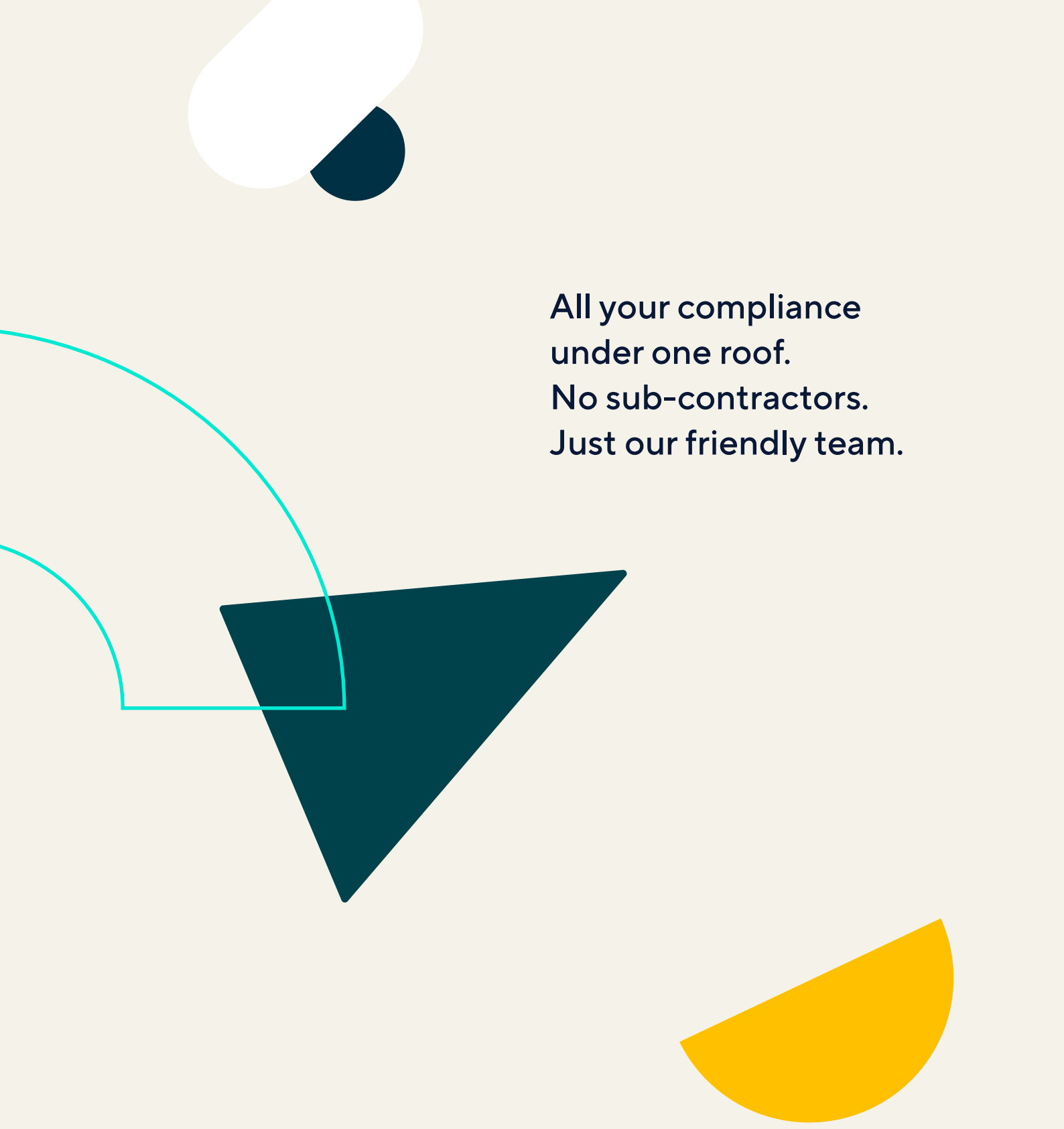
- Energy efficiency rating (A–G)
- Carbon emission rating
- Recommendations for improvement

The EPR is essentially an informational report used privately by homeowners, landlords or surveyors, while the EPC is the official, legally recognised certificate required for:

- Selling a home
- Renting a home
- Compliance with building regulations for new dwellings

This distinction is stated explicitly:
Energy Performance Report – EPR vs Energy Performance Certificate – EPC and their purposes.

In summary		
Feature	EPC	EPR
Legal requirement	Yes	No
Must be lodged on EPC Register	Yes	No
Used for sale/rental compliance	Yes	No
Shows A–G efficiency rating	Yes	Yes
Based on RdSAP/SAP	Yes	Yes
Purpose	Official certification	Informal/diagnostic report



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