

CASE STUDY 01 • EXAMPLE

Family house 3D heat map – example

This is what a 3D heat map looks like: findings sit where they really are on the model, you can walk around them, and each comes with a cause and a typical fix. The house is only an easy-to-read illustration – HőKép3D works with business clients.



Simulated temperature field on the “City Kit (Suburban) 2.0” 3D model – Kenney (kenney.nl), CC0 1.0. The temperature field is HőKép3D’s own simplified simulation (outdoor 0 °C, indoor 20 °C, night, no wind).

1 Why 3D? More than a pile of photos

A thermal image shows one plane at one moment; a facility survey produces dozens. A 3D heat map projects them onto one model that follows the real geometry, so findings are tied to a place and to dimensions.

The finding is where it is. Not “on the right of the third photo” but at a given point of the facade.

Length and area can be measured. That becomes an estimated loss and then a cost estimate – with stated assumptions.

Before and after comparable. A survey after the repair goes onto the same model.

One picture for managers and specialists. Overview for management, detail for the engineer; the A/B/C list sits next to the model.

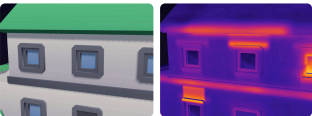
Question	Folder of images	3D heat map
Where is the defect?	By photo number and description	On the model, in place
How long / large is it?	Has to be estimated	Measurable from the model
Comparable after repair?	Image by image, awkwardly	On the same model
Handed to a contractor?	Folder + explanation	Link + list of findings

The 3D model does not improve measurement quality: the camera still sees only surface temperature and interpretation depends on conditions. The model makes findings easier to place and communicate.

EXAMPLE / ILLUSTRATION – Example – illustration built from open-licensed images and simulated data, not a real client.

2 The five findings – and what they mean

Each finding has a visual and a (simulated) thermal view from the same viewpoint. Relevance and temperatures come from the example's simulation; this example gives no money figures.



1 Window lintel thermal bridge

WHAT WE SEE

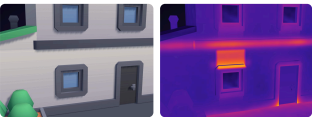
A warm band, wider than the window, runs along the wall above the opening.

WHY

The lintel (concrete or steel) conducts heat many times better than the masonry; the same line can cause condensation and mould inside.

TYPICAL FIX

Continuous external insulation over the lintel, cover insulation around the opening.



2 Roller-shutter box

WHAT WE SEE

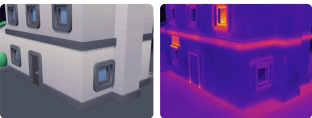
A sharp-edged, evenly warm rectangle above the window – the shutter box.

WHY

The box sits inside the wall, separated from the room by a thin sheet, and its service hatch is not airtight: a thermal bridge and an air leak in one place.

TYPICAL FIX

Insulated shutter box or insert, an airtight service cover.



3 Plinth and slab edge

WHAT WE SEE

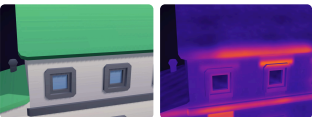
A patchy warm line runs round the building at the slab level and along its base.

WHY

The slab projects through the insulation and the plinth insulation is thin or missing; cold floor and wall corners remain inside.

TYPICAL FIX

Continue the facade insulation down the plinth below ground level, cover the slab edge.



4 Eaves junction

WHAT WE SEE

Patches of warm band where wall meets roof; the rest of the roof is cold.

WHY

Roof and wall insulation overlap incompletely, the ring beam is a thermal bridge, and warm air leaks out through the eaves (stack effect).

TYPICAL FIX

Make roof and wall insulation continuous, add an air barrier at the eaves.



5 Leaky window

WHAT WE SEE

One window frame and its lower corners are conspicuously warm, with a warm plume above.

WHY

A dried-out seal and badly adjusted hardware let warm indoor air escape through the gap.

TYPICAL FIX

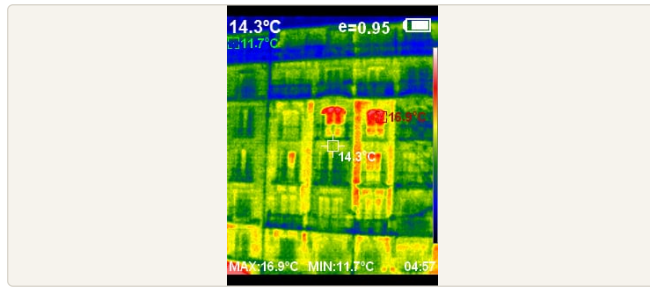
Replace the seal, adjust the hardware; replace the window if it cannot be repaired. Verify with smoke or an air-tightness test.

Images: own simulation on the Kenney "City Kit (Suburban) 2.0" CC0 model.

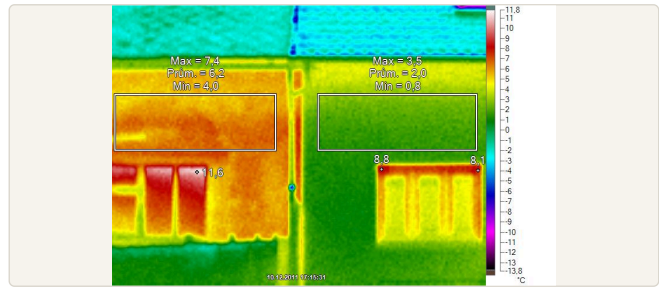
EXAMPLE / ILLUSTRATION – Example – illustration built from open-licensed images and simulated data, not a real client.

3 Real thermograms of similar defects

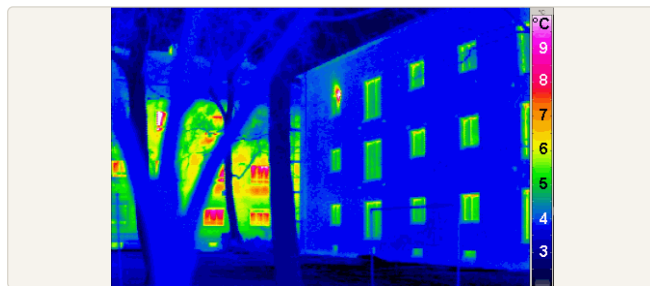
The model is simulated. The images below are real thermograms under open licences – not our images and not our clients. They are shown unmodified, resized for the PDF.



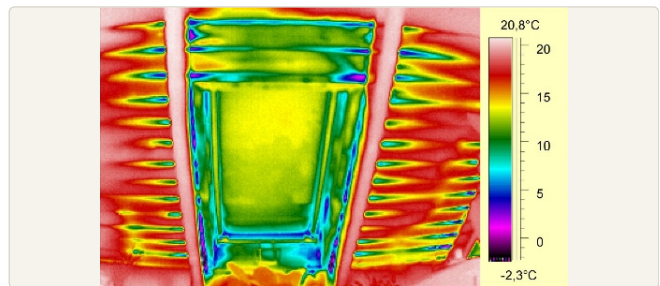
„Pont thermique thermographie infrarouge Briq Formation” – Thibault LEMONNIER, CC BY 4.0 / Wikimedia Commons · linear thermal bridge on a multi-storey facade



„Termovizní snímek rodinného domu” – Radim.vesely, CC BY-SA 3.0 / Wikimedia Commons · two wall sections of the same house: the left one = 4 °C warmer · unmodified



„Passivhaus thermogram gedäemmt ungedäemmt” – Passivhaus Institut, CC BY-SA 3.0 / Wikimedia Commons · the well-insulated wall “disappears” on the thermogram · unmodified



„FensterIR Blower Door” – Sönke Krüll, CC BY 3.0 / Wikimedia Commons · streaks of cold air flowing in along the frame

4 Honestly: the house is only an example

HőKép3D works with business clients: warehouses, halls, shops, wineries, cold stores, institutions. The family house is here because its defect types are familiar to everyone. The logic is the same, only the defects have other names: dock seal, sandwich-panel joint, ridge, column base, cold-room junction. We do not offer a residential service. This document is not an offer and not the result of a real measurement.

Engineering thermal-imaging survey – not an accredited or certified inspection. It does not replace an energy performance certificate, a statutory energy audit, mandatory electrical-safety or fire-safety inspections; those are carried out by professionals authorised under Hungarian law. Figures are estimates, not guarantees.

Curious where heat escapes from your facility?

Request a quote: we survey at night, register the images on a 3D model and rank what to fix first. · [hokep3d.hu](mailto:info@hokep3d.hu) · info@hokep3d.hu

Credits and sources

- 3D model: “City Kit (Suburban) 2.0” – Kenney (www.kenney.nl), CC0 1.0. The temperature field is HőKép3D's own simulation.
- Thibault LEMONNIER, „Pont thermique thermographie infrarouge Briq Formation”, CC BY 4.0 – [commons.wikimedia.org](https://commons.wikimedia.org/File:Pont_thermique_thermographie_infrarouge_Briq_Formation.jpg) (File:Pont_thermique_thermographie_infrarouge_Briq_Formation.jpg)
- Radim.vesely, „Termovizní snímek rodinného domu”, CC BY-SA 3.0 – [commons.wikimedia.org](https://commons.wikimedia.org/File:Termovizní_snímek_rodinného_domu.jpg) (File:Termovizní_snímek_rodinného_domu.jpg)
- Passivhaus Institut, „Passivhaus thermogram gedäemmt ungedäemmt”, CC BY-SA 3.0 – [commons.wikimedia.org](https://commons.wikimedia.org/File:Passivhaus_thermogram_gedäemmt_ungedäemmt.png) (File:Passivhaus_thermogram_gedäemmt_ungedäemmt.png)
- Sönke Krüll, „FensterIR Blower Door”, CC BY 3.0 – [commons.wikimedia.org](https://commons.wikimedia.org/File:FensterIR_Blower_Door.jpg) (File:FensterIR_Blower_Door.jpg)
- The CC BY-SA images are shown unmodified, only resized; no derivative work was made from them.