Indoor air and building with earth

A practical guide to sick building syndrome and compressed earth blocks (CEBs).

Start with what matters

01 · Observe

Record when discomfort occurs and in which spaces. A pattern is a reason to investigate, not a diagnosis.

02 · Address the building

Control pollutant sources, check ventilation and repair leaks or persistent dampness.

03 · Choose carefully

Assess the whole construction. No block, coating or plant replaces ventilation or medical care.

02 Symptoms, possible factors and first steps
03 Building with earth and reviewing the building
04 Further reading

Information for homes and workplaces. Not a medical diagnosis or a promise of health outcomes.

Symptoms and first steps

Sick building syndrome (SBS) describes discomfort linked to time spent in a building, without a specific illness or cause being identified. It can occur in offices, homes and other settings. [1, 2]

Recognise a pattern, not a diagnosis

Headaches, eye, nose or throat irritation, cough, dry skin and fatigue are nonspecific symptoms. They may improve after leaving the building, but can have other causes. Seek medical advice if symptoms persist; if several people are affected, inform the person responsible for the building. [1, 2]

What to investigate

Insufficient ventilation, pollutants from products or activities, dampness and poor maintenance can contribute. Also review temperature, lighting, glare, noise and working conditions: not all discomfort is caused by indoor air. [1, 2, 3]

Immediate actions

Avoid indoor smoke and reduce fragranced or irritating products. Keep ventilation grilles clear. Use kitchen and bathroom extraction that exhausts outdoors. Open windows when it is safe and outdoor air quality allows; request a check of mechanical ventilation where installed. [3]

What cannot solve the problem on its own

A typical number of houseplants does not remove significant amounts of pollutants. Suitable filtration can help with particles, but does not remove every substance or replace source control and ventilation. Do not use a humidifier as a general remedy: excess moisture and dirty equipment can make conditions worse. [3, 4]

Earth: a material, not a treatment

CEBs are a construction option. Choosing them does not guarantee cleaner air, prevent SBS or cure symptoms. Indoor environmental quality depends on the whole building, how it is used and how it is maintained.

“Breathing” is not ventilation

Vapour permeability and a material’s ability to exchange moisture are not the same as replacing room air. Some earthen assemblies can buffer changes in humidity; the effect depends on the mix, exposed surface and finishes. A ventilation strategy is still essential. [3, 5]

Thermal mass is not thermal insulation

Storing heat and slowing heat transfer are different functions. Density alone does not prove “excellent insulation”. Assess the thermal performance of the specific product and whole wall, taking account of climate, thickness and any insulation layers. No superior acoustic performance is promised without applicable tests. [5]

Materials and emissions

“Natural” does not automatically mean harmless or emission-free. Check blocks, stabilisers, mortars, paints, adhesives and furniture. Request emissions documentation and relevant tests; do not claim that Terraversa reduces volatile organic compounds (VOCs) without measurements. This guide includes no CO_2 comparisons or undocumented savings.

A long-term review plan

Repair water ingress and the cause of dampness. Schedule ventilation and filter maintenance. Before renovation, request an assessment of the whole assembly and product documentation. Structural alterations require qualified professionals; do not remove walls yourself. [3, 4]

Checklist for the building manager

- ☐ Record spaces, times and discomfort without sharing other people’s health information.
- ☐ Report odours, condensation, leaks or blocked ventilation grilles.
- ☐ Request a review of ventilation and pollutant sources.
- ☐ Check whether the measures work afterwards; seek medical advice if discomfort continues.

Further reading

A revised adaptation of “Breathe Easy With Earth Bricks”, credited in the supplied file to Santiago Maspons (24 January 2024).

1 · EPA — Indoor Air Facts No. 4: Sick Building Syndrome

2 · NHS — Sick building syndrome

3 · EPA — Improving Indoor Air Quality

4 · EPA — Use and Care of Home Humidifiers

5 · Research review — Hygrothermal Properties of Raw Earth Materials (2019)

6 · Terraversa — Consultancy and training

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