

Thermal Mass

Architecture

What heavy construction does to indoor temperature, and what it needs to work.

Thermal mass is a material's ability to absorb, store and later release heat, flattening the indoor temperature swing and delaying the peak by several hours.

TYPICAL TIME LAG
6 to 8 hours

NEEDS
night purge

- Concrete, brick, stone and water store heat well.
- Heavy construction typically lags the peak 6 to 8 hours.
- It must be exposed, not hidden by a suspended ceiling.
- It must be purged at night by cool outside air.
- It needs a real day-to-night swing to recharge.
- In warm humid climates it can make things worse.

LOOK FOR IT

A soffit left exposed and night-vented can cut a peak office temperature by several degrees at no running cost.

Mass delays and dampens heat flow; insulation resists it. They are different properties and neither substitutes for the other.