

EDGE COMFORT™

Edge Comfort™

Quiet thermal comfort, built into the room.

Passive PCM thermal buffering for brighter, more stable living spaces.

Passive comfort

UltraST inorganic PCM

22.32 °C phase points

A discreet room-side thermal buffer for homes and apartments, smoothing daily comfort swings from sun, cooking, people, and changing seasons.

Passive PCM Thermal Buffer System | Rev D | 2026-07-09

Efficient homes still need a room-side thermal buffer.

Efficient homes often hold heat well. The comfort problem is the short daily swing: low sun, family activity, cooking, and facade gain can push rooms above or below the preferred band.

Sun-facing rooms

Large windows and low-angle sun can create short overheating periods even in cool seasons.

Family activity

People, cooking, appliances, and lighting add indoor heat close to the occupied zone.

Slow HVAC response

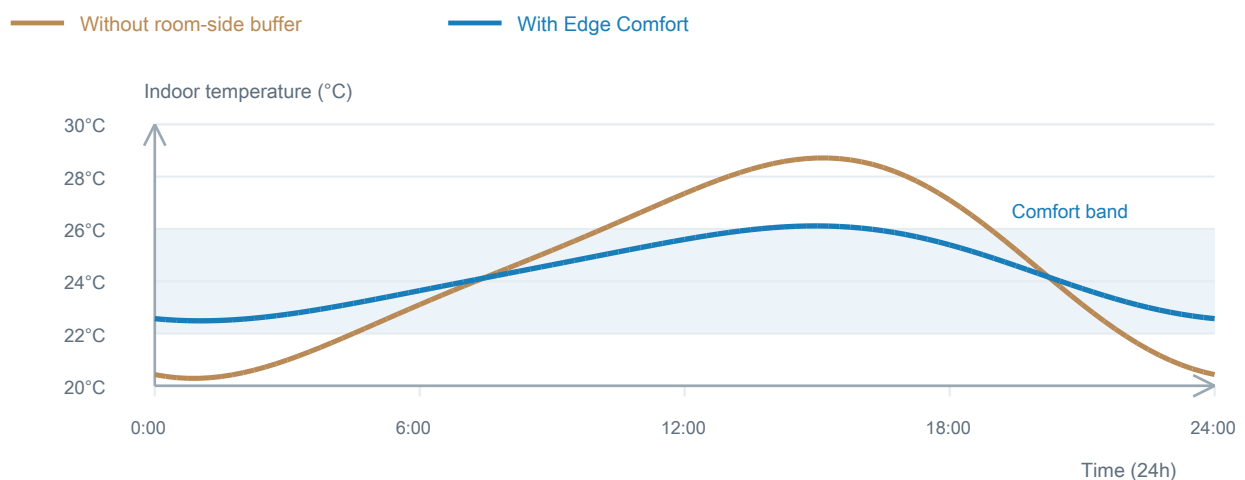
Heating and cooling systems respond at room scale; Edge Comfort adds a local passive buffer.

Insulation slows heat transfer. Edge Comfort stores and releases heat on the room side.

The result is a calmer thermal rhythm around the people in the room, without asking the homeowner to operate another device.

Illustrative 24-hour indoor temperature swing

Illustrative chart, not measured project data



A discreet PCM module that stores comfort close to the room.

Edge Comfort™ uses an UltraST inorganic PCM core, high-conductivity structure, and protective enclosure for integration into ceiling cavities, window benches, cabinets, or interior assemblies.

UltraST solid-state PCM module

Selected phase-point SKUs absorb or release latent heat near the target room temperature band.



Solid-state PCM

Reduces liquid leakage risk compared with liquid PCM formats.

Passive logic

Responds to temperature change, with no moving mechanical parts.

Hidden detail

Designed for room-side cavities with maintained heat exchange.

Design friendly

Supports bright, quiet interiors without visible equipment.

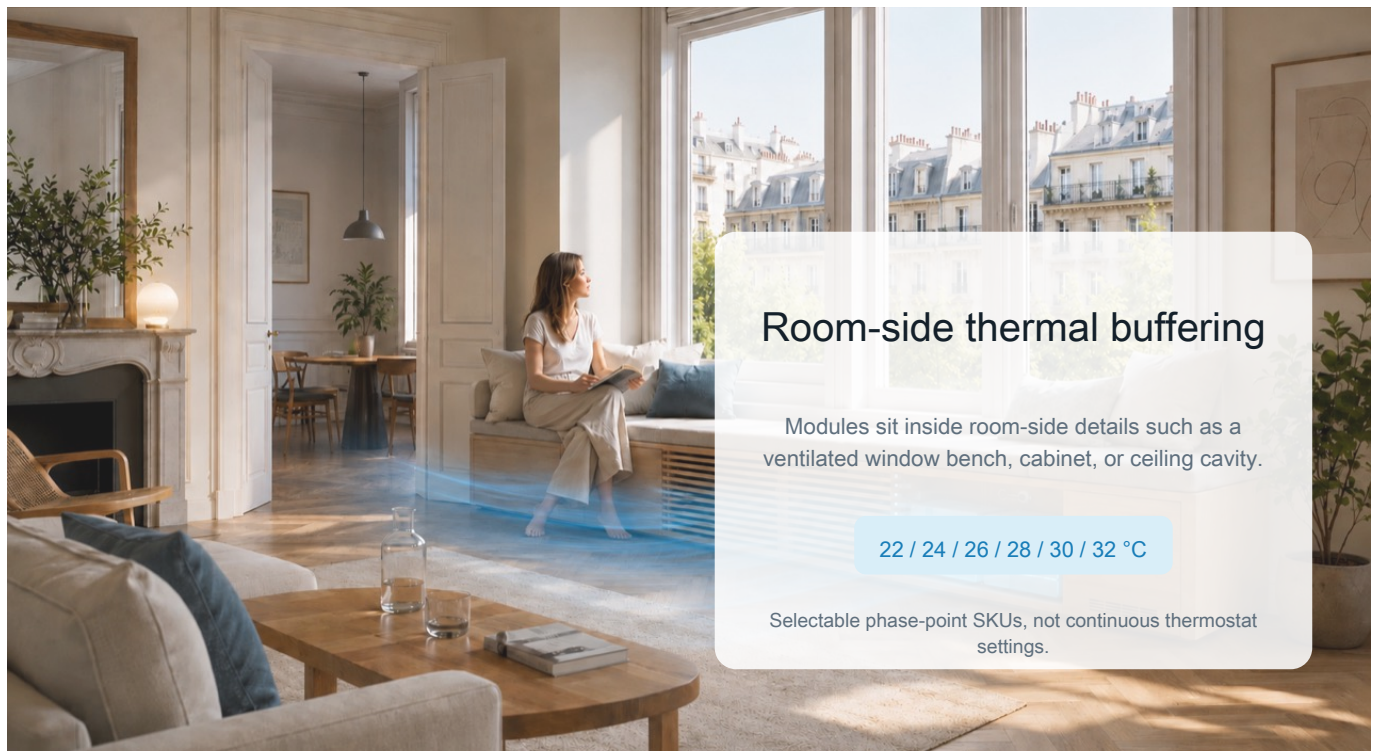
PCM principle

As room temperature rises above the selected phase point, PCM stores heat. As the room cools, it releases stored heat back toward the occupied zone.

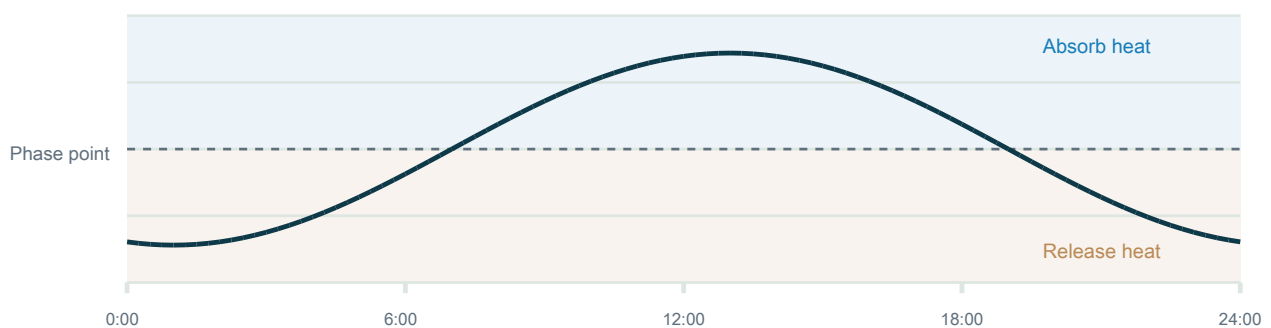
Material structure: UltraST inorganic PCM core + high-conductivity structure + protective enclosure.

Above the phase point, store heat. Below it, give heat back.

The same module logic can support summer comfort and shoulder-season heating comfort, depending on the room profile and selected phase point.



24-hour absorb / release rhythm



Illustrative chart, not measured project data.

Designed for homes with daily comfort swings.

Prioritize spaces where people feel temperature change first: sun-facing rooms, living areas, bedrooms under rooflines, window benches, ceiling cavities, and renovation zones with available room-side depth.

New family homes

Plan PCM into ceilings, benches, or interior assemblies from the design stage.

Sun-facing living areas

Buffer short overheating periods caused by daylight, cooking, and occupancy.

Attic or roofline rooms

Support rooms that warm quickly during the day and cool after sunset.

Window bench modules

Use ventilated furniture cavities near the facade disturbance zone.

Existing-home retrofit

Add passive buffering where ceiling or cabinet cavities already exist.

Serviced apartments

Improve perceived stability while preserving clean interior finishes.

Project-fit check

Confirm orientation, occupancy schedule, indoor temperature profile, available installation cavity, airflow path, and inspection access before sizing modules.

Hotel rooms and light commercial spaces can use the same logic, but the primary brochure story is residential comfort.

Single-module facts for designer and installer selection.

Verified values for 300 x 300 mm UltraST modules used in early assessment, sample discussion, and pilot selection.

Parameter	T3 (30 mm)	T5 (50 mm)
Module size	300 x 300 x 30 mm	300 x 300 x 50 mm
PCM volume	2.7 L	4.5 L
Storage capacity	0.154 kWh / module	0.257 kWh / module
Thermal conductivity	XY 10 W/mK; Z 2 W/mK	XY 10 W/mK; Z 2 W/mK
Temperature options	22 / 24 / 26 / 28 / 30 / 32 °C	22 / 24 / 26 / 28 / 30 / 32 °C

T3 / T5 are module-thickness codes for 30 mm and 50 mm variants.

Material structure

UltraST inorganic PCM core + high-conductivity structure + protective enclosure.

Selection logic

Select the disturbance zone, phase point, and available depth before estimating module count.

Claim boundary

Final performance requires project thermal analysis and pilot verification. No certification, cycle-life, fixed energy-saving, or customer-case claim is made in this brochure.

Install close to the exchange path.

Use real cavities and ventilated details to keep PCM modules connected to room-side airflow, access, and conductive coupling.

Confirm before installation

Airflow path, grille opening, conductive coupling, inspection dimensions, installation depth, and local building requirements.



Ceiling cavity installation

Ceiling cavity

Keep modules near the room-side panel and retain inspection access.



Ventilated cabinet integration

Window bench / cabinet

Use ventilated furniture cavities near facade disturbance zones.

Engineering handoff

Validate the hidden cavity condition before committing to a module layout.

- Do not block airflow through grilles.
- Retain inspection access.
- Avoid sealed cavities without coupling.
- Pilot representative rooms before scale-up.

EDGE COMFORT™

Store comfort in the architecture.

Edge Comfort™ | Passive PCM Thermal Buffer System

A brighter, quieter way to add room-side thermal resilience to homes and residential interiors.



Contact

Company	Ningbo Passive Edge Material Co., Ltd.
Email	hi@passive-edge.cn
Phone	+86 (0574) 8725 2670
Address	Ningbo · Yongshuiqiao S&T Center · China
Website	www.passive-edge.cn

Final performance requires project thermal analysis and pilot verification. No certification, cycle-life, fixed energy-saving, or customer-case claim is made in this brochure.

© 2026 Passive Edge Tech. All rights reserved.