

PHASE CHANGE MATERIALS

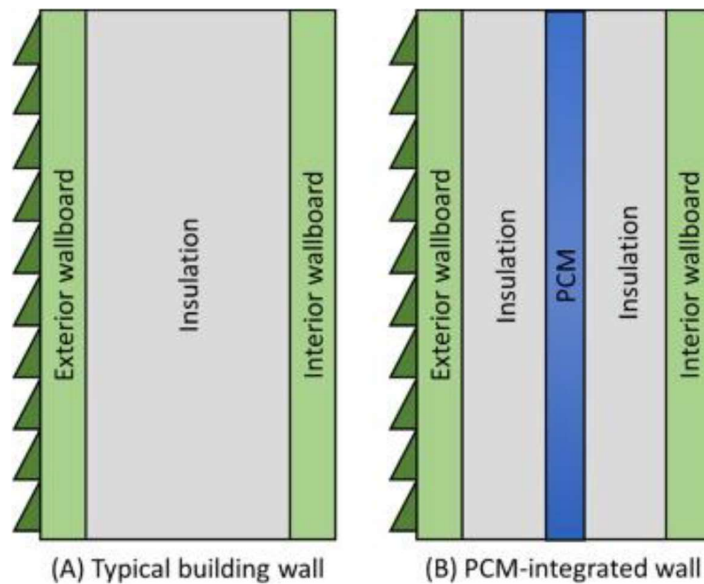
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(S Shahmir)

THE IMPLICATIONS OF PCM

Phase change materials (PCMs) are poised to revolutionize energy industry, particularly through integration into construction materials. They enhance building envelopes by efficiently retaining and releasing heat, providing substantial energy savings and thermal management. Challenges such as high initial costs, limited availability, durability concerns, and the need for regulatory standards must be addressed before PCMs can be widely adopted and fully embraced by construction industry.

IS PCM ADAPTATION VIABLE?

PCMs are known to have been in use in building construction, underfloor heating materials, HVAC temperature regulation and energy storage. Future HVAC systems can be revolutionized with PCM thermal storages that can play pivotal role in achieving net-zero target(s). Innovative techniques such as 3D printing and modular construction can also integrate PCMs for thermal management. Despite high initial costs and the need for regulatory standards, PCM does promise long-term energy saving and environmental benefit.



THE SYNERGY OF PCM AND AI

The future of Phase Change Materials (PCM) in MEP industries promises significant energy efficiency and building performance. As artificial Intelligence (AI) technology advances, use of PCM can drive innovation and development of greener buildings by predicting energy models, analysing data and automatically controlling building functions for smarter and more responsive environments.