

IIT-Indore develops Flexible Heat Isolation Device

Indore: A team of researchers in discipline of Physics at Indian Institute of Technology-Indore has designed an all-organic flexible electrochromic device which allows visible light to

pass through it and blocks the heat (infrared radiation) from the sun.

The press release issued by IIT-Indore on Thursday stated that the device insulates two sides of the device so that lesser energy is required in maintaining the temperature, either by air-conditioning or heating, in one side of the device. The

new technology relies on organic materials and consumes very little energy.

It is easy to make device on transparent glass substrates as well as on flexible ones allowing one to integrate them on windows of any shape. "The fabricated device is initially magenta in appearance and thus not allowing visible light to come in but

allows the heat to come, in this way it facilitates the darkness and cooling purpose inside the room and works like an electronic curtain," the release stated.

When an electrical bias of 1V is applied, the device becomes transparent allowing the visible light only to pass but filters out the heat (infrared radiation) from sun-

light. This property of the device is used for lighting and thermally insulating feature of buildings. With the application of low voltage (as low as 1V), it allows the visible light to come in but shields the heat (infrared radiation) of sun making the house cool from the external environment and not compromising visibility inside.

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