



FIRE



DESIGN • COMFORT • INSULATION

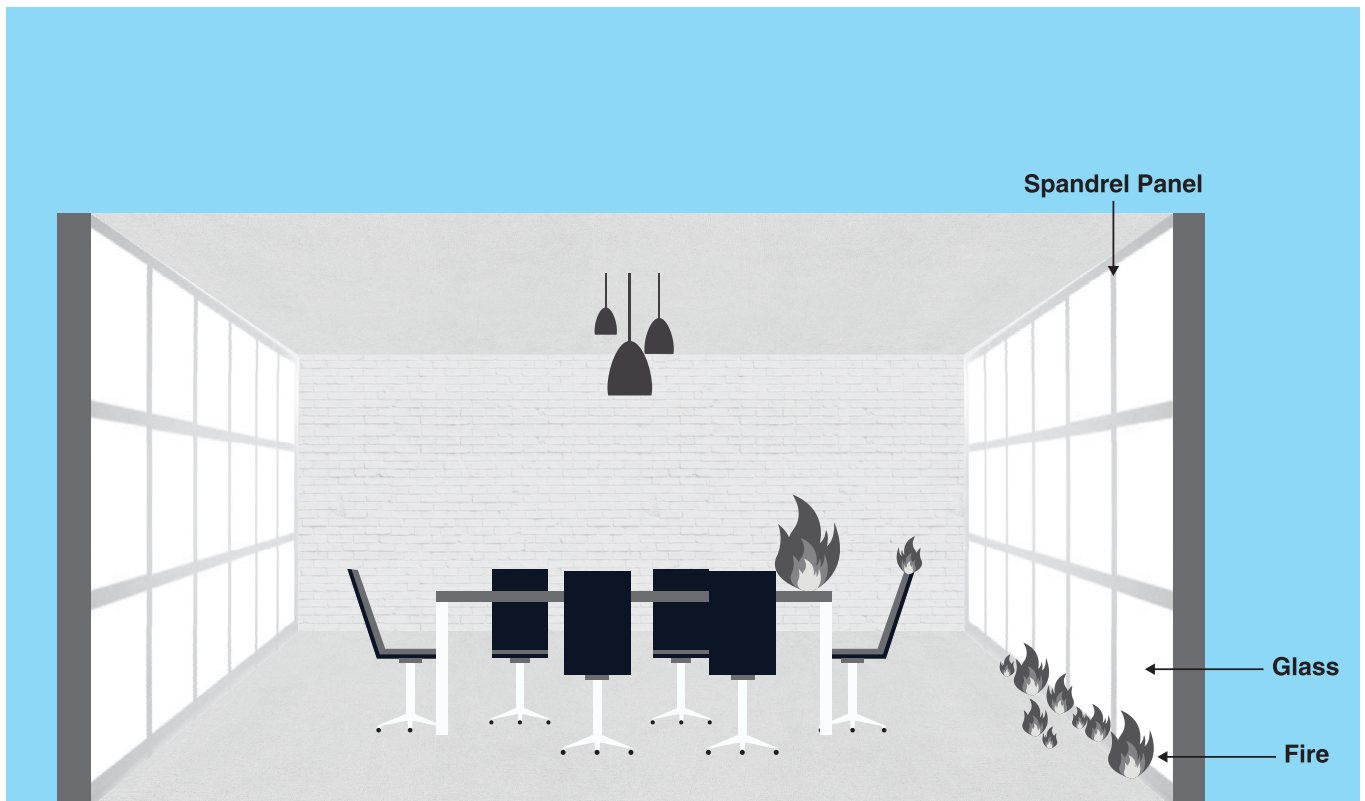
HURDLES FOR FIRE BETWEEN FLOORS

INGLASS SYSTEMS[®]

GLASS FACADE INSULATION

GLASS FACADES ARE IN

Glass facades are the most sought after façades nowadays for aesthetic additions to buildings. Glass façade cladding works as a protective barrier around the external part of a building to help regulate the interior atmosphere and prevent external elements from affecting the main structure. Usually the glass used for this purpose is Spandrel Glass. It is a much suited option for cladding as it is opaque in nature and hides the features between floors like wires, vents, slab ends, mechanical supports, etc.



THE CHIMNEY EFFECT

While this is an aesthetically pleasing aspect of the building, it is highly vulnerable to fire accidents. The glass is designed to withstand heat and fire, but the features it hides or the air gap created helps spread fire. Fire spreads through glass façade via the phenomenon 'Chimney Effect'. The glass is treated to withstand heat, but it does heat up due to the fire. This heat spreads rapidly and the Chimney Effect turns the heated surface into a thermal zone. These thermal zones suck the hot gases and flames in their direction by conduction.

PLEASING AESTHETIC CAN BE DANGEROUS

Due to the Chimney Effect, fire and hot gases travel throughout the building through open shafts or any other openings available between the floor slab edge and the curtain wall/glass façade. This may seriously harm the occupants and the property. Hence, aesthetics though pleasing might prove dangerous.

- **Glass facades are the trend in buildings nowadays**
- **But they are vulnerable to fire through the phenomenon called Chimney Effect**
- **So they are visually pleasing to look at but dangerous from fire spread perspective**

AESTHETICS NOT AT THE COST OF SAFETY

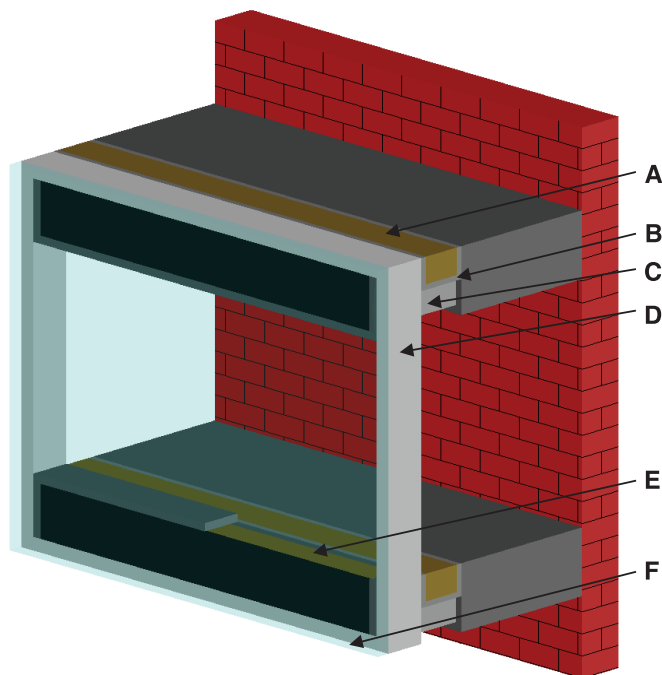
Aesthetics of the building is definitely important, but not at the cost of fire safety. It is critical to use materials that do not allow the spread of flame and toxic gases through open areas between slabs and the façade, especially when spandrel glass is used. These glasses are designed to withstand heat and fire.

InGlass Systems Add Critical Hurdles For Spreading Fire

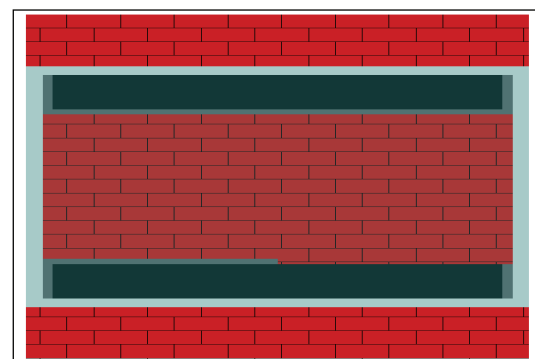
This loophole in using glass façade can be rectified by using proper insulation material. Fire retardant insulation material can be used in the frames of these spandrel glass panels. Insulation material, which is fire retardant or fire rated, limits the spread of flames and gases. It helps in slowing the propagation of fire. These materials are rated on fire resistance which ranges from 30 to 180 minutes. They enhance the possibility of building occupants escaping to safety. It also gives the fire fighting services a greater chance to locate the source of fire and douse it before it spreads further.

Occupants' Safety At The Centre of Design

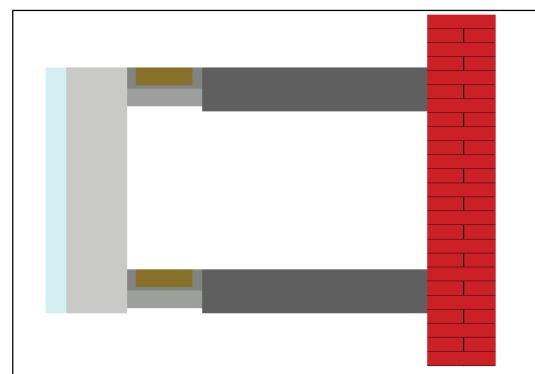
This system is designed keeping in mind the safety of the building occupants. The insulation materials used are highly fire retardant. The thickness of the system can be designed on the basis of existing system or can be suggested during the construction phase of the building. The thickness can be based on the space available between the slab and the panel or according to government norms during the construction phase.



- A) Fire insulation material
- B) Insulation cavity
- C) Support system
- D) Glass frame
- E) Insulation material with facing
- F) High temperature resistant glass

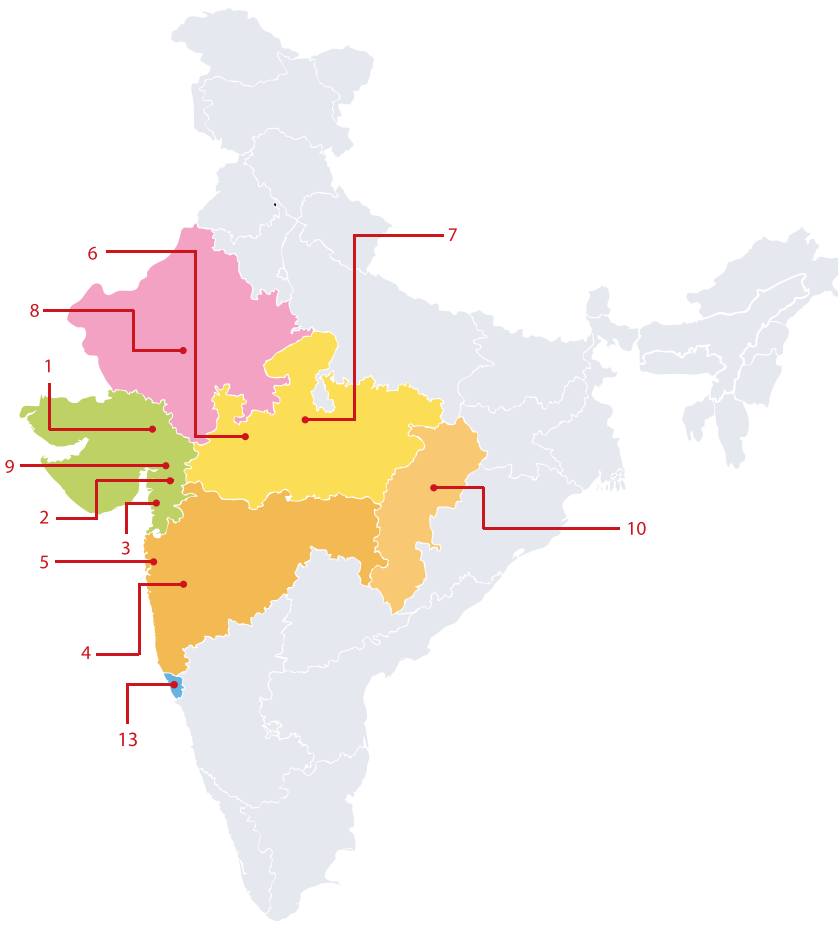


Front view



Side view

- Aesthetics of the building is important but it should not be at the cost of fire safety
- InGlass Systems add critical minutes before giving in to flames, which saves lives
- As fire retardant, it also makes the spread of fire more difficult



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