CNCGLASS
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Choosing the Right Switchable Film for the Opening You Have

Begin with the opening, not with a product name

The right switchable film is the one that fits the glass, the climate, and the way the room will be used. A bathroom door, a shopfront, and a conference wall do not ask for the same construction. We therefore start with questions: is this a retrofit onto existing glass, or a new laminated unit? Is the opening interior only, or does it see weather? How critical is a perfectly clear view, and who will maintain the power supply?



Figure 1. Glass and bonding film used when a switchable layer is laminated as a finished unit.

For new work we usually recommend a PDLC layer laminated between glass with EVA. The interlayer gives adhesion, fragment retention, and a protected home for the switchable film. For an existing pane that cannot be replaced, a self-adhesive PDLC film may be the only practical path, with the understanding that the film now lives on the glass surface and must be installed and cleaned accordingly.

Optical and construction choices

Light transmittance in the clear state, and haze in both states, should be reviewed on a sample, in the same glass thickness you intend to use. High transmittance preserves daylight; low haze in the on state preserves the view. A modest residual haze is normal for PDLC and should be accepted in writing if the opening is a primary view window. UV blocking is a separate, usually desirable, property that protects interiors.

Thickness talk often mixes two different layers. The PDLC film itself is thin; the EVA interlayers used to laminate it are specified in the same range as other architectural interlayers, chosen for the glass weight, the lay-up, and the laminator. Adhesion of those interlayers to glass is a safety property, not a cosmetic one. We would rather see a documented peel and a complete cure than a decorative thickness list standing alone.

Durability is a climate and edge question

A unit that will sit in sun, humidity, or a wet room needs an EVA and an edge that are intended for that exposure. Yellowing, edge haze, and lift are the failures that appear when an interior-only construction is asked to face the

weather. Water resistance, color stability, and mechanical toughness should be demonstrated, or at least discussed, against the real environment, not against a laboratory shelf.

Electrical quality belongs in the same review: a transformer with margin, a bus that can be serviced, and a control that will not cycle the film without need.

Choosing a supplier as a process partner

A useful supplier offers more than a roll. They can show a range of constructions, talk through lamination or retrofit practice, and remain available when an opening is atypical. Custom sizes, bus positions, and glass make-ups are ordinary requests in this work and should not be treated as favors. What we do not find useful is a supplier who can only discuss a single geography or a single promotional name.

Look at finished samples, ask for application notes, and involve the fabricator early. The best switchable film on paper is the one that still looks and switches correctly after it has been built into the frame.

Match the construction to the opening: laminated EVA-PDLC for new and demanding work, retrofit film only where the glass must stay, and a supplier who will stand behind the optical and electrical result in the building.

Contact Us

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We can help you compare switchable constructions, select an EVA interlayer, and review samples against the openings on your drawing.