CNCGLASS
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PDLC Switchable Glass in Modern Architecture: Where It Earns Its Place

Flexible rooms without movable hardware

Architects reach for PDLC switchable glass when a space must be both open and, at times, closed—without filling the opening with blinds. In an office partition this is immediately useful. A glazed meeting room can share light with the floor plate and then frost for a private conversation. The change is in the glass, so the elevation stays a single, calm plane. In our work the switchable layer is a PDLC film, laminated between glass plies with EVA so the unit can be specified, glazed, and maintained as laminated safety glass.



Figure 1. Laminated glass and bonding film of the type used to build switchable architectural units.

The same idea extends to team rooms and focus booths in open offices. Used with a simple wall switch or a room-booking contact, the glass follows the meeting rather than asking occupants to draw a screen. Daylight in the clear state is the energy benefit we are prepared to stand behind; the scattering state is for privacy and glare, not a claim that the façade no longer needs solar-control design.

Houses, hotels, and a quieter interior

In dwellings and hospitality, the typical openings are bathrooms, bedroom fronts, interior courts, and suite dividers. Occupants can keep a view and daylight, then make the pane private without a curtain track. UV blocking in the laminate helps protect interiors. We brief clients honestly on residual haze in the clear state: it is usually acceptable in these rooms, and less acceptable where a perfectly invisible view is the entire point of the window.

Because the PDLC layer sits inside the laminate, cleaning is the cleaning of glass, not of a surface film that can scratch or lift. That matters in hotels and apartments, where the opening will be cleaned often and by many hands.

Healthcare: privacy and a more hygienic opening

Consulting rooms, ward bays, and nursery windows have long relied on curtains for privacy. Curtains are familiar, and they also collect dust. A switchable laminated pane can give visual privacy at a switch, then return to a clear, supervisable opening, without a textile surface in the clinical zone. We present this as an aid to privacy and to cleaning, not as a substitute for clinical infection-control design.

Electrical reliability and a serviceable bus connection are part of the healthcare specification. A pane that cannot be clear when a clinician needs to see the room is a poorly specified pane.

Retail and display, used with restraint

Shopfronts and display cases can use the clear-to-frost change to reveal or veil merchandise, or to close a window after hours while keeping the interior partly lit. The effect is strongest when it is used sparingly—one controlled change, not a constant flicker. As with the office, the unit should be designed as laminated glass, with the EVA bond, edge, and transformer treated as architectural components.

Across these settings the architectural case for PDLC is the same: a glazed surface that can change its social behavior without changing its physical presence in the building.

PDLC laminated with EVA is at its best when the brief is specific—privacy on demand, daylight when the room is open, and a fragment-retaining pane. Used that way, it is a precise architectural tool rather than a decoration.

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We support architectural teams and fabricators on EVA-bonded PDLC units for offices, homes, healthcare, and retail.