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SWITCHABLE PRIVACY FILM (PDLC)
MASTER GUIDE SPECIFICATION

SECTION 08 87 36

Architect of Record remains responsible for adapting this Master Guide Specification to the requirements
of each individual project.

This document is intended to assist architects and design professionals in preparing project-specific specifications.

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Prepared for Architects, Specification Writers, and Design Professionals

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Document Purpose

This Master Guide Specification has been prepared to assist architects, specification writers, glazing consultants, contractors, and design professionals in specifying VitroLens field-applied switchable privacy film systems. The document follows the Construction Specifications Institute (CSI) three-part specification format and is intended to be edited by the design professional to suit the specific requirements of each project.

Revision History

Revision	Date	Description
1.0	August 2026	Initial Draft

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PART 1 – GENERAL

1.1 Summary

VitroLens provides field-applied electrically switchable privacy film systems utilizing Polymer Dispersed Liquid Crystal (PDLC) technology for architectural applications. Systems are designed to simplify specification, installation, commissioning, and long-term support.

Section Includes:

- **Field-applied electrically switchable PDLC privacy film**
- **Power controllers and accessories**
- **Project-Specific Shop Drawings**
- **Installation documentation**
- **Operation and Maintenance Manual**

1.2 References

VitroLens switchable privacy film shall comply with applicable electrical, building code, and manufacturer requirements for the project.

1.3 Submittals

Submit Product Data, Project-Specific Shop Drawings, Samples (if requested), Operation & Maintenance Manual, and Warranty Documentation.

Installation shall not begin until Project-Specific Shop Drawings have been reviewed and approved. Approved Project-Specific Shop Drawings shall govern film dimensions, busbar locations, wire exits, control zones, and system configuration.

1.4 Quality Assurance

Manufacturer shall have experience in the design, engineering, installation support, and technical support of electrically switchable privacy film systems.

Installation shall be performed by a VitroLens-approved or VitroLens-certified installer in accordance with the manufacturer's written instructions. Line-voltage electrical work shall be performed by a qualified licensed electrician.

1.5 Delivery, Storage & Handling

Deliver film in protective packaging. Store in a clean, dry, temperature-controlled environment in accordance with manufacturer recommendations. Protect film edges, busbars, lead wires, and protective liners from moisture, folding, creasing, pinching, and physical damage.

1.6 Warranty

Provide the manufacturer's standard one (1) year limited warranty for field-applied switchable privacy film, subject to VitroLens installation, commissioning, maintenance, and warranty requirements.

PART 2 – PRODUCTS

2.1 Manufacturer

VitroLens Technologies, Inc.

VitroLens provides Project-Specific Shop Drawings for customer review and approval prior to installation.

2.2 Product Description

Provide field-applied, pressure-sensitive adhesive switchable privacy film utilizing Polymer Dispersed Liquid Crystal (PDLC) technology. The installed film shall provide an instant transition between a translucent privacy state when de-energized and a substantially transparent state when energized.

2.3 Standard Construction

- White PDLC Privacy Film (Standard)
- Pressure-Sensitive Adhesive Application
- Maximum Film Width: 60 inches unless otherwise approved
- Approximately 1/8-inch perimeter setback from glass edges
- Busbar configuration as indicated on Approved Project-Specific Shop Drawings
- Electrical lead wiring and busbar protection as required
- Film and electrical system tested during commissioning

2.4 Performance Requirements

Optical and electrical performance shall comply with current VitroLens product data for the film furnished. Residual haze is inherent to PDLC technology in the energized and de-energized states and shall not, by itself, be considered a product defect.

Glass substrate shall be clean, smooth, structurally sound, and suitable for pressure-sensitive adhesive film application.

2.5 Controllers & Control Options

Controllers shall be purpose-designed for switchable privacy film applications and shall not consist of generic inverters, modified power supplies, or other off-the-shelf electrical devices.

- 70 VAC true square-wave output unless otherwise specified for the furnished film
- Controlled startup and overvoltage protection
- Dry contact input for approved switching and automation applications
- Optional 0–10 V control interface
- Continuous-duty operation
- Sized in accordance with total connected film area and Approved Project-Specific Shop Drawings
- 18 AWG, 2-conductor stranded cable for runs up to 100 feet unless otherwise indicated

PART 3 – EXECUTION

3.1 Examination

Verify glass condition, dimensions, framing, electrical rough-in, wiring paths, controller locations, and supporting construction are complete and suitable for installation. Do not begin installation until unsatisfactory conditions have been corrected.

3.2 Installation

Install in accordance with Approved Project-Specific Shop Drawings and VitroLens written installation instructions. Maintain the specified perimeter setback. Protect film edges, busbars, and lead wires from damage.

Use non-conductive gaskets where gaskets contact or are immediately adjacent to the film. Do not apply suction cups to the film surface.

3.3 Electrical Installation

Install controllers, low-voltage wiring, controls, and associated components in accordance with applicable codes, Approved Project-Specific Shop Drawings, and VitroLens instructions.

Protect conductors at penetrations. Do not make concealed splices inside conduit. Where permitted, soldered field connections are preferred and shall be insulated and mechanically protected.

3.4 Field Quality Control

Verify proper operation of each film panel and control zone before and after final installation. Verify controller output and voltage at the film are within the approved operating range. Correct deficiencies prior to project acceptance.

3.5 Cleaning & Protection

Clean in accordance with VitroLens recommendations. Do not spray cleaning solution directly onto film edges, busbars, or electrical connections. Do not use abrasive pads, metallic sponges, razor blades, knives, or other sharp tools on the film surface.

3.6 Closeout

Provide the Operation & Maintenance Manual, Warranty Documentation, commissioning documentation, and Approved Project-Specific Shop Drawings upon project completion. Document completed installation with photographs or video as required for warranty activation.

END OF SECTION 08 87 36