

DSS-A.04.02 | Assembly / Internal Conditions

Busbar / Lead Defects Visible Through Lite (PDLC / EC; switchable glazing)

Assembly / internal device condition - typically CAT-5 by location; out of in-place scope

Diagnosis summary

Visible anomalies associated with busbars, printed/laminated leads, or current-distribution traces within a switchable glazing device (e.g., PDLC or electrochromic). Typical cues include misalignment/print-through, discontinuities, smears, voids, corrosion/discoloration along the busbar edge, or local opacity near conductors.

Field identification cues

- Location / access (primary)
- Confirm the cue sits within the device/laminate (not on #1/#4). Demonstrate fixed parallax to distinguish internal/device features from face-side conditions.
- Surface-catch class (MSRT)
- On exposed face(s), record SC-0 (none). The Manual Surface-Relief Test is a single, non-marring pass used only to support classification-not acceptance.

Classification, severity and scope

- CAT-5 - Out of in-place scope when the anomaly is internal to the switchable device/laminate (not on an exposed worked surface). Document and refer per project protocol (fabricator/manufacturer/warranty).
- If separate face-side damage exists (scratches, coating rub/patchiness), classify that independently under the appropriate family (M/Co/Ch) by CAT; do not let an internal cue control face-side acceptance.

Distinguishing criteria

- vs.
- vs. Between-pane particulate (A.01.03) or spacer smear (A.01.04): Cavity artifacts sit on #2/#3 faces; device traces are laminate/device-internal.
- vs. Face-side residues/films (R-family): Residues respond to Non-Invasive Reveal and can show face-side MSRT cues; busbar/lead issues do not.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique, include raking. Add one short sequence (or paired frames) demonstrating fixed parallax relative to reflections.
- Forms (VIS Appendix X3 fields): Pane ID; product family (smart glazing-PDLC/EC); surface numbering (#1-#4; laminate-internal if applicable); worked surface Y/N; functional.
- Acceptance split: Internal device/laminate conditions are not subject to in-place acceptance under VIS; document and refer per project protocol.

Safety / repairability boundary: Complete only the non-invasive reveal and inspection steps authorized by the controlling VIS guidance. Classification does not authorize restoration, establish acceptance, or override stop-work, coating, crack, integrity, access, chemical, fall-protection, or project-specific requirements.

Full DSS publication: use the catalog download. Web specification:

<https://a7df714357.nxcli.io/learning-center/resource-center/damage-specification-standards/dss-a-04-02-busbar-lead-defects-visible-through-lite-pdlc-ec-switchable-glazing/>