

DSS-A.04.01 | Assembly / Internal Conditions

Black Spots / Voids in Active Layer (PDLC / EC; switchable glazing)

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

Diagnosis summary

Discrete dark “black” spots, pin-voids, or small opaque islands occurring within the active switchable layer (e.g., PDLC or electrochromic stack) of a smart-glazing lite. Because the cue resides within the laminate or device stack (not on an exposed worked face), it is not addressable in place; classification is governed by location/condition under VIS rules.

Field identification cues

- Location / access (primary)
- Confirm the cue sits within the device/laminate and is not on a worked face. Demonstrate fixed parallax (feature remains fixed relative to its reflection as the observer moves).
- 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; it cannot “probe” an internal cue.

Classification, severity and scope

- CAT-5 - Out of in-place scope when the condition is laminate/device-internal (not on an exposed worked surface). Document and refer per project protocol (fabricator/manufacturer/warranty).
- If any additional face-side damage exists (e.g., scratches, coating rub/patchiness), classify that separately under the appropriate family (M/Co/Ch) and assign CAT per VIS; do not let an internal cue.

Distinguishing criteria

- vs. Coating anomalies on the worked surface (Co-family): Coating rub/sheens occur on the exposed face and are disallowed at acceptance on coated surfaces (VIS §6.2.e).
- vs.
- vs. Face-side residues/films (R-family): Residues change with reveal and can show face-side MSRT cues; internal active-layer voids do not.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in; normal + oblique; include raking frames and a short sequence (or paired frames) demonstrating fixed parallax.
- Forms: Pane ID; product family (smart glazing-PDLC/EC); surface numbering (#1-#4; laminate-internal if applicable); “worked surface Y/N”; functional coating present on.
- Acceptance split: Internal device/laminate conditions are not subject to in-place acceptance under VIS; document and refer.

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-04-01-black-spots-voids-in-active-layer-pdlc-ec-switchable-glazing/>