

DSS-A.02.02 | Assembly / Internal Conditions

Bubbles / Stringers (entrapped gas/voids in laminated interlayer)

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

Diagnosis summary

Discrete bubbles (rounded voids) or stringers (elongate/filamentary voids) within the laminated interlayer (between plies). These are laminate-internal features-not on an exposed worked face-and are therefore not addressable in place; classification is location/condition-driven. Product/spec context for laminated glass: ASTM C1172; ISO 12543.

Field identification cues

- Location / access (primary):
- Confirm laminate-internal location. On project forms, record product family (laminated) and surface numbering (#1-#4; laminate-internal).
- Surface-catch class (MSRT):
- SC-0 (none) on the exposed face(s). MSRT is a single, non-marring pass used only to support classification-not acceptance. Do not abrade.

Classification, severity and scope

- CAT-5 - Out of in-place scope when features are laminate-internal (not on an exposed worked surface). Document and refer per project protocol (fabricator/manufacturer/warranty).

Distinguishing criteria

- vs.
- vs. Adhesive/film domes (R-family) on #1/#4: Face-side residues respond to Non-Invasive Reveal; laminate-internal bubbles do not.
- vs. Local delamination (A.02.06): Delamination often shows defined boundary (Newton fringes/iridescence) or creep; bubbles/stringers are discrete voids without broad separation.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique, raking; add one back-lit close-up (when safe) to show void boundaries.
- Forms: Pane ID; product family & surface numbering (#1-#4; laminate-internal); worked surface Y/N; functional coating present on worked surface?
- Measurements (if requested): Approximate void size (mm), count per area, and distance from edge; note temperature/RH at time of inspection (for reproducibility).

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-02-02-bubbles-stringers-entrapped-gas-voids-in-laminated-interlayer/>