

## DSS-A.01.06 | Assembly / Internal Conditions

# Breather / Altitude-Tube Staining Pattern (#2 / #3)

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

### Diagnosis summary

Characteristic staining or streaking patterns deposited on IGU cavity faces (usually #2 / #3) associated with breather/altitude-tube ports used during fabrication/shipping/altitude equalization. By location (between panes), these cues are not on an exposed worked face and are not addressable in place; classification is therefore location/condition-driven.

### Field identification cues

- Location / access (primary):
- Identify faces via surface numbering (#1-#4). Demonstrate between-pane location by fixed parallax (feature remains stationary relative to its reflection as the observer moves). If confirmed, classify CAT-5 by location.
- Surface-catch class (MSRT):
- Not determinative for a cavity-face cue. MSRT is for exposed faces only and is a single, non-marring pass to support classification-not acceptance. On the exposed face, record SC-0 (no relief) if checked.

### Classification, severity and scope

- CAT-5 - Out of scope for in-place restoration when the staining resides on #2/#3 (between panes). Document and refer per project protocol (manufacturer/warranty/replacement).

### Distinguishing criteria

- vs. Spacer smear/bleed (A.01.04): Spacer smear typically forms continuous bands parallel to the spacer; breather-tube staining often radiates from a point/port or short perimeter segment.
- vs. Internal haze/volatile fogging (A.01.01): Fogging is a diffuse veil across a broader field; tube staining is localized with identifiable origin. Use parallax and perimeter context.
- vs. Face-side residue (R-family): Face films respond to reveal; cavity staining does not. Confirm with reveal and fixed parallax.

### Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique, raking; include a parallax sequence and perimeter frames that show the tube/port adjacency.
- Forms: Record pane ID, product family & surface numbering (#1-#4; laminate-internal), worked surface Y/N, functional coating present on worked surface?
- Narrative split: "Between-pane perimeter staining consistent with breather/altitude-tube origin on #2/#3; CAT-5 by location; refer per 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-01-06-breather-altitude-tube-staining-pattern-2-3/>