

DSS-Co.04.02 | Coating Anomalies

Pinholes / Holidays (Spandrel & Back-Paint Systems)

Back-paint/ceramic-frit opacity system anomaly - discrete clear points/voids or ultra-thin spots within the opaque layer; reads through glass from viewing side; planar from glass surface; SC-0 at viewing face; confirm system build and coated face before attribution

Diagnosis summary

Pinholes/holidays (spandrel/back-paint) are discrete, point-like voids or ultra-thin spots in an opaque or semi-opaque coating applied to the non-viewable side of the glass (e.g., spandrel back-paint, ceramic frit). From the viewing face they present as tiny bright/clear dots (transmission) or high-reflectance specks (reflection). The defect is planar behind the glass and non-tactile at the viewing surface.

Field identification cues

- Surface-catch class (MSRT)
- At the viewing (glass) surface: SC-0 (planar defect behind glass).
- Do not perform MSRT on the back-coating face in situ. MSRT supports classification only on the viewing surface.
- Visual signature

Classification, severity and scope

- Assign CAT by visibility at acceptance geometry and count/density of pinholes. Depth values are apparent optical, not substrate relief.
- CAT-1 (Benign / non-relief): Few, very fine pinholes legible mainly in oblique/back-lit conditions; SC-0 viewing surface. Indicative optical relief: 0-10 μm (apparent).
- CAT-2 (Light): Scattered pinholes visible at standard distance under common lighting; SC-0; aesthetic but limited area. Indicative optical: ~10-40 μm .
- CAT-3 (Moderate): Clusters/bands of pinholes affecting perceived uniformity across >0.5% area or along critical sightlines; SC-0. Indicative optical: ~40-120 μm .
- Reclassify when: If points correspond to front-face pits or fused nodules → Th.01 hot particle; if ring/halo chemistry appears on viewing face → Ch family; if linear grooves exist → M.01.

Distinguishing criteria

- vs. Mineral pepping (Ch.03): Mineral pepping shows ring/flow context and may be SC-1/2; Co.04.02 pinholes are planar behind glass and SC-0 at the viewing surface.
- vs. Hot particle embed (Th.01.02): Hot particle shows fused hemispheres/craters on the exposed face; Co.04.02 points are clear windows through an opaque back-coat.
- vs. AR/low-E pinholes (Co.01.03): Functional low-E pinholes occur on vision coatings and affect interference color; spandrel pinholes occur in opaque fields and read as bright dot windows.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique; back-lit frames to make clear points evident; raking macros verifying smooth viewing surface.
- Face/System ID. Confirm spandrel/back-paint face and system build (submittals/shop drawings).
- MSRT (viewing surface only). Record SC-0 to distinguish from front-face mechanical/chemical attack.

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-co-04-02-pinholes-holidays-spandrel-back-paint-systems/>