

DSS-Co.05.01 | Coating Anomalies

Frit Smears / Offset

Ceramic frit anomaly - directional “drag,” smudge, or registration shift of the fired frit pattern; planar behind the viewing surface; typically SC-0 at the viewing face. Confirm frit face, artwork intent, and location before attribution.

Diagnosis summary

Frit smears/offset are appearance changes within a fired ceramic frit pattern (dots/lines/graphics) where the intended edges are dragged, feathered, or shifted relative to the artwork. The anomaly is planar in the frit layer (usually on a non-viewing face such as #2 or #4) and non-tactile from the viewing surface. Classification is appearance-only per VIS (method-agnostic).

Field identification cues

- Surface-catch class (MSRT)
- From the viewing (glass) side: SC-0 (planar behind glass).
- Do not MSRT the frit 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 pattern fidelity impact (edge clarity, offset magnitude). Depth values are apparent optical, not substrate relief.
- CAT-1 (Benign / non-relief): Minor feather/drag legible mainly at oblique/raking; edge blur $\square$ 0.1 dot diameter or line gain $\square$ 10%; SC-0.
- CAT-2 (Light): Discernible smear/offset at standard distance in common lighting; offset $\square$ 0.25 dot diameter (or line gain 10-25%) over limited area; SC-0.
- CAT-3 (Moderate): Pane-noticeable smear/offset at standard distance affecting graphic intent over $\geq 0.5\%$ of the visible field; offset ~ 0.25 -0.5 dot diameter or line gain $> 25\%$; SC-0.
- Reclassify when:

Distinguishing criteria

- vs. Back-paint mottle (Co.04.01): Mottle is cloud-like density variation; Co.05.01 shows geometric edge drag/offset tied to artwork.
- vs. AR/low-E anomalies (Co.02/Co.03): Functional films lack ink dot/line geometry and registration cues.
- vs. Abrasion fields (M.02): Abrasion creates directional micro-texture at the viewing face (often SC-1); Co.05.01 is SC-0 at the viewing face and edge-geometry-specific.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique; macro frames of dot/line edges showing drag or offset; overview establishing vector direction and area.
- System ID. Confirm frit face (surface #), pattern spec (dot size/spacing/line weight), lot/date; obtain shop drawings/submittals if available.
- MSRT (viewing face). 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-05-01-frit-smears-offset/>