

DSS-Co.02.03 | Coating Anomalies

Local Coating Discontinuity (Pyrolytic Hard-Coat)

Pyrolytic [hard-coat] low-E anomaly - localized thin/void spot, streak, or island within the deposited film; planar optical discontinuity often with sharp or feathered boundary; typically SC-0, occasionally SC-1 at minute imprint; confirm coated face before attribution

Diagnosis summary

Local coating discontinuity (pyrolytic) is an appearance change confined to pyrolytic (hard-coat) functional coatings where the deposited film exhibits a localized reduction in thickness, skip/void, or density change. It presents as a spot, small island, short streak, or patch with distinct sheen/color shift relative to surrounding coated areas.

Field identification cues

- Surface-catch class (MSRT)
- SC-0 typical (planar optical change within coating).
- SC-1 localized only if a minute micro-imprint exists (e.g., particulate contact imprint).
- Perform one light, non-marring pass on a small revealed test patch; polymer stylus only on suspected coated faces. MSRT supports classification only; do not abrade the coating.

Classification, severity and scope

- Assign CAT by visibility at acceptance geometry and MSRT.
- CAT-1 (Benign / non-relief): Small faint spot/streak legible mainly at oblique/raking; SC-0. Indicative relief: 0-10 µm (optical only).
- CAT-2 (Light): Discernible discontinuity at standard distance in certain lighting; SC-0 (or SC-1 localized if micro-imprint). Indicative relief: ~10-40 µm (apparent optical).
- CAT-3 (Moderate): Pane-noticeable patch at standard distance affecting uniformity over >0.5% of view area; SC-0/SC-1. Indicative relief: ~40-120 µm (apparent optical).
- Reclassify when: Parallel periodic bands → Co.02.01 Roller pickup; localized sheen shift tied to wipe arcs → Co.02.02 Rub/Scuff; linear grooves with chip flanks → M.01 Scoring; ring/run/halo chemistry →.

Distinguishing criteria

- vs.
- vs. Mineral/chemical spots (Ch family): Chemical spots show ring/rim, runs, or micro-texture (SC-1/2); Co.02.03 is planar, SC-0, without wetting geometry.
- vs. Mechanical pad trails (M.02): Abrasion trails show directional texture and SC-1 over a path; Co.02.03 is localized and non-directional at micro-scale.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique; raking macros showing boundary; overview frames documenting size and position. Record distance/angle in-frame.
- Face ID + MSRT. Confirm coated surface; MSRT (polymer stylus only) on revealed patch records SC-class (SC-0 typical; SC-1 localized if present).
- Lot/replication check. Inspect adjacent lites for coordinate/shape repetition to support intrinsic origin.

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-02-03-local-coating-discontinuity-pyrolytic-hard-coat/>