

DSS-Co.02.01 | Coating Anomalies

Roller Pickup / Line Ghosting (Pyrolytic Line)

Pyrolytic [hard-coat] low-E anomaly - transport/handling imprint during high-temperature deposition or subsequent hot processing; quasi-parallel sheen-shift bands at roller pitch; generally planar, film-level optical variation; typically SC-0, occasionally SC-1 at lightly textured pickup

Diagnosis summary

Roller pickup/line ghosting (pyrolytic line) is an appearance change confined to pyrolytic (hard-coat) low-E or comparable high-temperature functional coatings. It presents as quasi-parallel, longitudinal bands (machine/transport direction) at spacings consistent with support/transport rollers, with subtle sheen or color shift (ghosting). The phenomenon is planar within the coating and usually non-tactile.

Field identification cues

- Surface-catch class (MSRT)
- SC-0 (planar optical variation within coating; no surface relief).
- SC-1 rare, where lightly textured pickup or fine particulate imprint provides very shallow relief.
- Perform one light, non-marring pass on a small revealed test patch. Use a 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. Depth values are indicative-field measurement not required.
- CAT-1 (Benign / non-relief): Faint banding legible mainly at oblique/raking; SC-0; minimal impact at standard view. Indicative relief: 0-10 µm (film-level optical only).
- CAT-2 (Light): Discernible bands at standard distance in certain lighting; SC-0 (or rare SC-1 if lightly textured pickup). Indicative relief: ~10-40 µm (apparent optical).
- CAT-3 (Moderate): Pane-noticeable band set at standard distance across significant area; SC-0/SC-1; clearly affects uniform appearance. Indicative relief: ~40-120 µm (apparent optical).
- Reclassify when: If chip-flank sparkle or tactile grooves appear → M.01 Linear scoring; if uniform granular frost in masked regions → V.01.01 abrasive blast; if runs/cream swirls exist → V.02 chemical.

Distinguishing criteria

- vs. M.01/M.02 mechanical: Mechanical defects show directional grooves/swirl with SC-1/SC-2 and chip-flank sparkle; Co.02.01 is planar sheen shift, typically SC-0.
- vs.
- vs. Ch.03 mineral staining/etch: Mineral systems show ringed halos/runs and can be SC-1/SC-2; roller ghosting lacks wetting geometry and remains lot-repetitive.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique; raking macros across band transitions; overview frames capturing parallelism and pitch. Record distance/angle in-frame.
- Face ID + MSRT.
- Lot/replication check. Where possible, document adjacent lites for repeated spacing/orientation (supports coating-intrinsic attribution).

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-02-01-roller-pickup-line-ghosting-pyrolytic-line/>