

DSS-E.01.04 | Environmental Exposure / Weathering

Condensation / Runoff Patterns

Environmental residue/attack - recurring moisture paths concentrating soils/minerals; rivulet maps, drip legs, head-to-sill curtains; typically SC-0 for residue films, SC-1 where micro-texture develops from cyclic deposition

Diagnosis summary

Condensation / runoff patterns are appearance changes on glass driven by recurrent water paths (dew, HVAC condensation, building runoff, irrigation overspray) that concentrate dissolved soils/minerals and produce rivulet maps, drip legs, curtains, and edge blooms. With prolonged cycling, very shallow micro-texture may form in preferred paths. Classification is appearance-only per VIS (method-agnostic).

Field identification cues

- Surface-catch class (MSRT)
- SC-0 for residue films that lift on reveal.
- SC-1 where incipient micro-texture is present inside flow paths (slight tactile interruption, no chip flanks). SC-2 suggests misclassification-evaluate Ch.03.03 mineral etching or M.02 abrasion if present.
- Perform one light, non-marring pass on a small revealed test patch (substrate). Use polymer stylus if a functional coating is suspected. MSRT supports classification only.

Classification, severity and scope

- Assign CAT by visibility at acceptance geometry and MSRT after a reveal patch. Depth values are indicative-field measurement not required.
- CAT-1 (Benign / non-relief): Clear rivulet/drip pattern comprised of residue only; SC-0; mainly angle/raking visible; lifts on reveal patch. Indicative relief: 0-10 µm (optical film).
- CAT-2 (Light): Persistent flow mapping post-reveal with localized SC-1 (incipient micro-texture from cycling); limited standard-view impact. Indicative relief: ~10-40 µm.
- CAT-3 (Moderate): Wide-area, legible flow curtains at standard distance with consistent SC-1 and low-contrast matte inside paths; indicates long dwell/high frequency. Indicative relief: ~40-120 µm.
- Reclassify when: Distinct white/grey crystalline rims or etched halos dominate → evaluate Ch.03 (mineral deposits/staining/etching); linear swirl/abrasion → M.02 abrasion fields.

Distinguishing criteria

- vs. Hard-water mineral system (Ch.03): Minerals show crystalline rings/rims and can progress to etch; pure runoff mapping may lack crystals and lifts on reveal.
- vs. Detergent/surfactant film (R.04.01): Detergent presents tool-path streaks/iridescence; runoff follows gravity paths from a structural origin with no wipe geometry.
- vs. Atmospheric corrosion matte (E.01.02): Atmospheric matte is global/non-directional; runoff patterns are directional with clear origins and branching trails.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique; raking macros of flow edges/matte fields; context frames of origins (head/drip edge/sprinkler/diffuser) and multiple.
- MSRT result (substrate): After a small reveal test patch, perform one light, non-marring pass; record SC-class (SC-0/SC-1/SC-2).
- Forms: Pane ID; product family & surface numbering; worked surface Y/N; functional coating present on worked surface?

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-e-01-04-condensation-runoff-patterns/>