

DSS-M.05.01 | Mechanical Abrasion, Scoring, Impact & Cracking

Short FD Scratch Cluster

Mechanical - factory handling/wash-induced; multiple short, parallel lineations

Diagnosis summary

A short FD scratch cluster is a localized patch (typically hand-sized or smaller) of multiple short, generally parallel fine scratches produced by entrained grit/debris during factory washing/handling. Lines are co-oriented, often confined to a narrow zone, and persist after Non-Invasive Reveal. Classification is appearance-only per VIS (method-agnostic).

Field identification cues

- Surface-catch class (MSRT)
- Light clusters: SC-1 (slight); pronounced clusters: SC-2 (clear) where chip flanks are present. Perform one light, non-marring pass only; polymer stylus on suspected coated faces. MSRT supports classification, not acceptance.
- Visual signature
- Multiple short, co-oriented scratches within a compact area; no long, continuous lane. Look for consistent stroke width and fine debris satellites.

Classification, severity and scope

- Assign CAT by appearance + MSRT + morphology (three-part cueing under VIS). Depths below are indicative to anchor the spectrum:
- CAT-2 (Light): Fine, shallow lines; SC-1, clean edges, no chip flanks; mainly a raking-only cue at close/standard view. Indicative depth: $\sim 0.2\text{-}1\text{ }\mu\text{m}$.
- CAT-3 (Moderate): Clear catch (SC-2) on representative lines; minor chip flanks and/or modeled micro-texture; noticeable at standard view. Indicative depth: $\sim 1\text{-}5\text{ }\mu\text{m}$.
- CAT-4 (Severe): Rough, bright chip flanks, peppered pits/craters, or broad matte sectors within the cluster; distinct at standard & wide-field views. Indicative depth: $\geq 5\text{ }\mu\text{m}$.
- CAT-5 (by location/condition): Between-pane/inaccessible by parallax, or integrity indicators (active cracks, moving pane) → CAT-5; document and refer.

Distinguishing criteria

- vs. Linear scoring / tracks (M.01): M.01 shows extended, continuous lines (sometimes pane-spanning); FD clusters are localized with short lineations.
- vs. Micro-abrasion swirls / pad trails (M.02.01): Swirls are looped/curvilinear; FD clusters are straight, co-oriented lines.
- vs. Residue films/overspray (R-family): Residues change with reveal and read SC-0; true FD lines persist and can read SC-1/SC-2.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique, include raking macros that resolve individual line edges (confirm presence/absence of chip flanks) and at least one.
- MSRT result: Record SC class (SC-0/1/2) with one light, non-marring pass on a representative line; polymer stylus on suspected coated faces. MSRT is supportive only.
- Forms: Pane ID; product family & surface numbering (#1-#4; laminate-internal); worked surface Y/N; functional coating 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-m-05-01-short-fd-scratch-cluster/>