

DSS-M.01.05 | Mechanical Abrasion, Scoring, Impact & Cracking

Hardware / Fastener Drag Line

Mechanical scoring on the worked surface - appearance-based classification; acceptance per VIS §6

Diagnosis summary

Localized, directional linear line(s) or short runs created when hardware/fasteners/metal fittings (e.g., screw heads, rail/spider fittings, brackets) contact and move across the glass face, leaving a mechanical score. In raking light the line often exhibits bright "chip-flanks" / micro-chipping where depth increases; it persists after Non-Invasive Reveal (clean & dry) and is not a removable film.

Field identification cues

- Surface-catch class (MSRT):
- Commonly SC-2 (clear) for true metal-on-glass scores; SC-1 (slight) when shallow. Perform one light, non-marring pass only; MSRT supports classification, not acceptance.
- Reveal / lighting / geometry:
- Complete Non-Invasive Reveal before evaluation (clean & dry). Assess at 12 / 36 / 72 in, normal incidence + oblique sweep (~60°-120°) under raking light, per VIS. Record distances/angles in the photo frames.

Classification, severity and scope

- Assign CAT by visibility convention and MSRT outcome at VIS viewing/lighting; apply the VIS three-part cueing (surface catch + edge/surface morphology + location/access):
- CAT-2 - Light: Narrow, clean-edged line(s) with SC-1, no pronounced chip-flanks; limited impact at standard view.
- CAT-3 - Moderate: SC-2 with minor chip-flanks; noticeable at standard distance.
- CAT-4 - Severe: SC-2 (clear-to-strong) with rough chip-flanks, possible pits/craters; distinctly visible at standard and wide-field views.

Distinguishing criteria

- vs. Straightedge/guide scoring (M.01.02): Guide scoring is ruler-straight over long runs; hardware drag lines are localized near contact points and often short-run.
- vs. Glass-on-glass tracks (M.01.03): Tracks present paired arcs/lines along a sweep path; hardware drag lines are single, local, originating at hardware.
- vs. Residue films/overspray (R-family): Residues change with Non-Invasive Reveal; mechanical scores persist. Apply VIS reveal + geometry.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique, include raking; add macro frames of the line showing edge morphology (chip-flanks if present) and no worked transition.
- MSRT result: Record SC class (SC-1 / SC-2 as observed); one pass, non-marring; on suspected coated faces, prefer polymer stylus.
- Forms: Pane ID; surface numbering (#1-#4 / laminate-internal); 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-m-01-05-hardware-fastener-drag-line/>