

DSS-R.01.01 | Residue / Film / Adhesion

Silicone Smear / Tool-Mark Film

Residue/film - uncured or partially cured silicone transfer from sealant tooling; optical veil, print, or drag; typically SC-0

Diagnosis summary

Silicone smear / tool-mark film is an appearance change on glass from uncured/partially cured silicone (or siloxane-rich by-products) deposited during sealant application and tooling at adjacent joints. It presents as optical veils, drag/corduroy tool lines, or finger/pad prints, often with preferential soil capture over time. Classification is appearance-only per VIS (method-agnostic).

Field identification cues

- Surface-catch class (MSRT)
- Typically SC-0 (film only).
- SC-1 (slight) may occur in aged, soil-loaded smears where residue cross-links with contaminants; SC-2 uncommon.
- Perform one light, non-marring pass on a revealed test patch (substrate) only; polymer stylus if a functional coating is suspected on the worked face. MSRT supports classification only.

Classification, severity and scope

- Assign CAT by visibility impact and MSRT after a controlled reveal on a small, representative area. Depth values are indicative-field measurement not required.
- CAT-1 (Benign / non-relief): Optical veil/print only; SC-0 on clean substrate; visible mainly at angle/raking. Indicative relief: 0-10 µm (optical).
- CAT-2 (Light): Persistent thin film with slight SC-1 on aged/soil-loaded zones; limited impact at standard view. Indicative relief: ~10-40 µm.
- CAT-3 (Moderate): Broader tool-mark bands/dirty halos legible at standard distance with SC-1→SC-2 in worst patches. Indicative relief: ~40-120 µm.
- CAT-4 (Severe): Rare for silicone residue alone; if pronounced matte fields exist, consider mixed chemistry (alkali + siloxane + UV/soiling) and re-evaluate under applicable DSS.

Distinguishing criteria

- vs. Butyl/PIB/IG sealant smear (R.01.02): PIB/butyl smears are tackier, darker, and can string; silicone reads oily/iridescent with lighter, clear veils.
- vs. Silane/siloxane migration halo (Ch.06.01): Migration halos align with masonry treatment geometry/weep paths; silicone tool-marks track the joint on the glass face and show corduroy drag.
- vs. Hydrophobic coating mismatch (Ch.06.02): Mismatch shows sharp wetting-behavior edges across open fields; silicone smears sit adjacent to joints with tooling direction visible.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique; include raking macros resolving drag/corduroy and finger/tool prints; add context frames (fresh joints, masking, tools).
- MSRT result: One light, non-marring pass on a clean test patch within the smear; record SC-class (SC-0/SC-1/SC-2). Polymer stylus if a functional coating is suspected.
- 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-r-01-01-silicone-smear-tool-mark-film/>