

DSS-R.01.03 | Residue / Film / Adhesion

Polysulfide / Polyurethane Smear

Residue/film - glazing/sealant transfer; amber/grey smear, elastic "drag tails," soil-laden bands; typically SC-0

Diagnosis summary

Polysulfide/polyurethane smear is an appearance change on glass from two-part polysulfide or moisture-cure polyurethane (PU) glazing/sealants transferred during application, tooling, masking removal, handling, or squeeze-out. It presents as amber-to-grey translucent veils, elastic drag tails/strings, and soil-laden bands adjacent to joints and corners. Classification is appearance-only per VIS (method-agnostic).

Field identification cues

- Surface-catch class (MSRT)
- Typically SC-0 (film only) on clean substrate once residue is truly lifted.
- Avoid MSRT across active/elastic smear; if a small test patch is safely cleaned without abrasion, confirm substrate SC-0 there.
- Use a 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 at acceptance geometry after a controlled reveal test confirms substrate SC-0 on a small patch. Depth values are indicative-field measurement not required.
- CAT-1 (Benign / non-relief): Thin optical veil/print; SC-0 on clean substrate; visibility mostly at angle/raking. Indicative relief: 0-10 µm (optical).
- CAT-2 (Light): Persistent thin smear with soil loading legible at standard view; substrate SC-0 at a clean test patch. Indicative relief: ~10-40 µm (film).
- CAT-3 (Moderate): Broader bands/corner blooms with stringers/dirty halos visible at standard distance; SC-0 on substrate where truly cleaned. Indicative relief: ~40-120 µm (film stack).
- Reclassify when: After true residue removal, any modeled micro-texture or SC-class > 0 remains on substrate → evaluate under chemical etch (Ch.04/.05) or mechanical families as indicated.

Distinguishing criteria

- vs. Silicone smear (R.01.01): Silicone reads oily/iridescent, lighter, with fine corduroy; polysulfide/PU reads amber/grey, more tarry, with elastic tails and strong soil catch.
- vs. Butyl/PIB smear (R.01.02): PIB is darker, very tacky, edge-line tracking at spacers; polysulfide/PU often adjacent to weatherseal joints and masking lines, not spacer lines.
- vs. Hydrophobic mismatch (Ch.06.02): Mismatch shows sharp wetting-behavior edges across open fields; polysulfide/PU smears hug joints and lack crisp wetting boundaries.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique; include raking macros resolving drag texture, elastic tails, and soil catch; add context frames (masking lines, tools,).
- MSRT result (substrate only): After lifting a small test patch without abrasion, perform one light, non-marring pass on the clean substrate; record SC-class (expect SC-0).
- 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-01-03-polysulfide-polyurethane-smear/>