

DSS-R.01.02 | Residue / Film / Adhesion

Butyl / PIB / IG Sealant Smear

Residue/film - butyl/PIB/IG edge-seal transfer; dark tacky smear, stringing, edge-adjacent bands; typically SC-0

Diagnosis summary

Butyl/PIB/IG sealant smear is an appearance change on glass from polyisobutylene (PIB) primary seal or butyl-based edge sealants transferred during IGU handling, glazing, or service. It presents as dark, tacky smears/bands, often edge-parallel, with possible stringing and particulate catch. Classification is appearance-only per VIS (method-agnostic). Inspect after Non-Invasive Reveal under VIS lighting/geometry;

Field identification cues

- Surface-catch class (MSRT)
- Typically SC-0 (film only) on the clean substrate once residue is truly lifted.
- Avoid MSRT across active tacky smear; if a small test patch is safely cleaned without abrasion, confirm substrate SC-0 there.
- Use 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): Optical/tarry smear only; once properly lifted, substrate SC-0; visibility mainly at angle/raking. Indicative relief: 0-10 µm (optical).
- CAT-2 (Light): Persistent thin tar veil that resists simple reveal; localized soil catch increases visibility at standard view; substrate SC-0 at a clean test patch. Indicative relief: ~10-40 µm (film).
- CAT-3 (Moderate): Broad edge bands/prints legible at standard distance due to thicker smear + soil loading; SC-0 on substrate where truly cleaned. Indicative relief: ~40-120 µm (film stack).
- Reclassify when: Any modeled micro-texture or SC-class > 0 remains on substrate after true residue removal → evaluate under chemical etch families (Ch.04/.05) or mechanical if present.

Distinguishing criteria

- vs. Silicone smear (R.01.01): PIB/butyl is darker, tar-like, tacky, often strings; silicone is oily/iridescent, lighter, with corduroy tool lines.
- vs. Silane/siloxane migration (Ch.06.01): Migration halos align with masonry treatment geometry; PIB/butyl smears align with IGU edges/spacers and handling points.
- vs. Mineral staining (Ch.03.02): Mineral veils are lighter and non-tacky; PIB/butyl is dark/tacky, captures particulates.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique; include raking macros resolving drag edges, stringers, and particulate catch; add context frames (IGU spacer line,).
- 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-01-02-butyl-pib-ig-sealant-smear/>