

DSS-Ch.06.01 | Chemical Attack / Etch / Reaction

Silane / Siloxane Migration Halo

Chemical/interaction - penetrating water-repellent from adjacent porous substrates; optical halos/veils, transfer films ± shallow micro-texture

Diagnosis summary

Silane/siloxane migration halo is an appearance change on glass resulting from penetrating water-repellent treatments (silane/siloxane) applied to adjacent porous materials (masonry/concrete/stone). During application, overspray, vapor phase, or capillary contact/weep can deposit organosilicon films on the glass, producing optical halos/veils and, with UV/heat/soiling, tenacious films that may leave very shallow micr...

Field identification cues

- Surface-catch class (MSRT)
- Frequently SC-0 (optical film only) on freshly contaminated glass.
- SC-1 (slight) may occur on aged/UV-baked halos where organosilicon residues cross-link with contaminants, leaving very shallow texture. SC-2 uncommon.
- Perform one light, non-marring pass on a revealed test patch 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 controlled reveal on a small representative area. Depth values are indicative-field measurement not required.
- CAT-1 (Benign / non-relief): Optical halo/veil only, SC-0 on clean substrate; visible primarily at certain angles/raking; limited at standard view. Indicative relief: 0-10 µm (optical).
- CAT-2 (Light): Persistent thin film with SC-1 at a revealed test patch (aged case); limited impact at standard view; edges track substrate geometry. Indicative relief: ~10-40 µm.
- CAT-3 (Moderate): Broader banding/halo legible at standard distance with SC-1 to SC-2 in aged regions; often co-located with soil accumulation. Indicative relief: ~40-120 µm.
- CAT-4 (Severe): Rare for silane/siloxane alone; if pronounced matte fields or widespread cross-linked texture occur, consider mixed chemistry (alkali + organosilicon + UV/soiling) and re-evaluate under.

Distinguishing criteria

- vs.
- vs. Residue films (R-family): General detergents/soot films lack strong geometric correlation to treated masonry lines and often clear more uniformly at reveal.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique; include raking macros of the halo edge and interior veil; add context frames showing treated masonry/stone, masking.
- MSRT result: One light, non-marring pass on a clean test patch within the halo; record SC-class (SC-0/SC-1/SC-2). Polymer stylus if a 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-ch-06-01-silane-siloxane-migration-halo/>