

DSS-Ch.02.02 | Chemical Attack / Etch / Reaction

Concrete Splash / Run-Off Etch Pattern

Chemical - alkaline attack; splash constellations, curtain-run bands, pooling shelves

Diagnosis summary

Concrete splash/run-off etch is alkaline (high-pH) attack on the exposed glass surface resulting from fresh concrete wash-out, saw-cut slurry, or rain-driven run-off carrying cement fines. It presents as splash constellations, vertical curtain-run bands, and pooling shelves that can leave grainy micro-texture (etch) after residues are removed. Classification is appearance-only per VIS (method-agnostic).

Field identification cues

- Surface-catch class (MSRT)
- SC-0 when only residual film was present and clears at reveal.
- SC-1 (slight) to SC-2 (clear) where alkaline etch produced micro-texture. Perform one light, non-marring pass; polymer stylus if a coating is suspected. MSRT supports classification only.
- Visual signature

Classification, severity and scope

- Assign CAT by appearance + MSRT + morphology (three-part cueing). Depth ranges are indicative-measurement not required.
- CAT-1 (Benign / non-relief): Cleaning film only, clears at reveal; SC-0; visible mainly in raking. Indicative relief: 0-10 μm .
- CAT-2 (Light): Subtle etched splash/run bands, SC-1; limited impact at standard view. Indicative relief: 10-40 μm .
- CAT-3 (Moderate): SC-2 over larger curtain-run fields; grainy frost legible at standard distance; edge ridging/pooling shelves apparent. Indicative relief: 40-120 μm .
- CAT-4 (Severe): Pronounced matte/frosted swaths with broad coverage or repeated events; distinct at standard & wide-field; may show opaque ridges at run terminations. Indicative relief: 120-300 $\mu\text{m}+$.

Distinguishing criteria

- vs. HCl brick-wash fallout (Ch.01.02): HCl runs show cleaner frost with sharper run edges; alkaline concrete leaves grainy/milky interiors and can show powdery edge build-ups.
- vs. Organic-acid footprints (Ch.01.03): Biogenic patches are localized organic ovals with pool centers; concrete shows splash constellations and continuous curtain bands tied to work zones.
- vs. Mechanical scoring (M.01): Scoring is directional lineation with chip-flank sparkle; alkaline etch is non-directional grain arranged by flow.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique; include raking macros resolving grain and edge build-ups; add context frames showing splash source/runoff path (saw-cut).
- MSRT result: One light, non-marring pass on representative splash/band/pooling shelf; record SC-class (SC-0/1/2). 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-02-02-concrete-splash-run-off-etch-pattern/>