

DSS-E.01.01 | Environmental Exposure / Weathering

Salt-Spray Crystals / Shoreline Frosting

Environmental residue/attack - marine/coastal aerosol deposition; crystalline rings, feathered frosting at windward exposures; typically SC-0 for loose crystals/films, SC-1 where micro-texture begins from cyclic wet/dry

Diagnosis summary

Salt-spray crystals / shoreline frosting is an appearance change on glass caused by marine/coastal aerosols (sea salts and hygroscopic constituents) depositing and cycling via evaporation/condensation. It presents as crystalline rings/halos, feathery "frosted" veils on windward façades, and recurring drip/rivulet maps under prevailing winds.

Field identification cues

- Surface-catch class (MSRT)
- SC-0 for loose crystals/films on the surface.
- SC-1 may appear where micro-texture begins from repeated cycles with fines/soils (very shallow relief in raking). SC-2 suggests misclassification-check Ch.03.03 mineral etching or M.02 abrasion.
- Perform one light, non-marring pass on a small revealed test patch (substrate). 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 at acceptance geometry and MSRT after a small reveal test. Depth values are indicative-field measurement not required.
- CAT-1 (Benign / non-relief): Discrete crystal film/rings; SC-0; mainly angle/raking visible; clears with proper reveal on test patch. Indicative relief: 0-10 µm (optical).
- CAT-2 (Light): Persistent frosting/shoreline veil after reveal with localized SC-1 (incipient micro-texture from cycling/soils); limited standard-view impact. Indicative relief: ~10-40 µm.
- CAT-3 (Moderate): Wide-area matte fields / recurrent rivulet maps legible at standard distance with scattered SC-1; indicates long dwell and frequent exposure.
- Reclassify when: Post-reveal, if non-directional micro-texture persists without crystalline residue → assess Ch.03.03 mineral etching; if linear abrasion swirls are evident, assess M.02.

Distinguishing criteria

- vs.
- vs. Detergent/surfactant film (R.04.01): Detergent veils show iridescence and wipe geometry; salt spray shows granular sparkle and shoreline halos without cleaning tool paths.
- vs. Soot/particulate film (E.01.03): Soot is grey/black, dry and transfers to cloth; salt crystals are sparkly/whitish and often deliquescent (re-wet into clear patches).

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique; raking macros of crystal fields, shoreline edges, rivulet maps; context frames of façade orientation / coastline /.
- MSRT result (substrate): After a small reveal test patch, perform one light, non-marring pass; record SC-class (SC-0/SC-1/SC-2).
- 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-e-01-01-salt-spray-crystals-shoreline-frosting/>