

Hard-Water Condition Spectrum & Assessment Quick Guide

DESCRIPTIVE SPECTRUM - NOT A REPLACEMENT FOR DSS OR VIS CAT CLASSIFICATION

H0

Clear baseline

D1

Light spots

D2

Bonded scale

S1

Faint veil

S2

Persistent stain

E1

Slight micro-texture

E2

Clear micro-texture

1 / SURFACE MATERIALCh.03.01

MINERAL DEPOSITS

Bonded mineral residue that sits on the glass. When fully removed without altering the substrate, no modeled micro-texture remains and the clean glass reads SC-0.

WHAT YOU SEE

Spots, rings, halos, crystalline scale or sheet-like films following spray and run patterns.

NEXT STEP

Perform a Non-Invasive Reveal and a small controlled residue-lift test. If the substrate clears to SC-0, document as deposit-only.

2 / PERSISTENT NON-ETCHCh.03.02

MINERAL STAINING

A tenacious film, veil or color shift that persists after reveal, while a truly clean substrate remains SC-0 with no modeled micro-texture.

WHAT YOU SEE

Soft halos, bands, tone shifts or a gently mottled veil in prior deposit and runoff footprints.

NEXT STEP

Document a revealed test patch and confirm SC-0 on clean substrate. Treat the remaining appearance as a non-etch film condition unless relief is confirmed.

3 / SURFACE ALTERATIONCh.03.03

MINERAL ETCHING

Subsurface attack that remains after surface material is removed. The glass shows modeled micro-texture, diminished specular clarity and typically SC-1 or SC-2.

WHAT YOU SEE

Soft-edged frosted fields, persistent ring/run footprints, milky reflection or non-directional micro-texture in raking light.

NEXT STEP

Cleaning alone cannot reverse altered glass. Complete DSS/CAT assessment, verify coating and integrity limits, and refer for trained restoration evaluation.

FIELD ASSESSMENT SEQUENCE

1. Confirm pane ID, glass construction, exposed surface number and whether a functional coating may be present.
2. Record the pre-reveal pattern. Treat unknown residues or chemicals as hazardous until identified.
3. Perform the sourced Non-Invasive Reveal: neutral-pH/distilled water with lint-free microfiber. Do not abrade to force a classification.
4. Inspect clean and dry at 12 / 36 / 72 in, normal incidence and oblique sweep, with raking light for relief and micro-texture.
5. When safe, use one light, non-marring MSRT pass on a representative clean area; use a polymer stylus if a coating is suspected.
6. Assign the closest DSS. Record multiple codes when deposits, staining and etching coexist; CAT and acceptance remain separate determinations.

IMPORTANT LIMITS

- These are condition classes, not guaranteed chronological stages. Mixed conditions are common.
- A cleaner or product result alone does not prove deposit, stain or etch identity.
- Do not stylus across crystalline nodules or contaminated patches. Do not probe, scrape or repeat passes.
- Between-pane or inaccessible conditions, integrity indicators and confirmed coating loss require CAT-5/referral handling under the DSS.
- The DSS describes the condition. It does not prescribe a restoration method. Follow project safety, chemical-handling and fall-protection requirements.