

DSS-Th.02.02 | Thermal / Hot Particle / Fusion & Thermal Stress

Overheated Grinder/Belt Burn Line

Thermal + mechanical - friction heat band with gloss shift and possible shallow micro-texture

Diagnosis summary

An overheated grinder/belt burn line is a localized, elongated band produced when a powered abrasive (grinder, belt, pad, or wheel) is run against the glass (often inadvertently) long enough to generate frictional heat. The result is a tone/shine shift (and, at higher severities, modeled micro-texture/matte) along the tool path. Classification is appearance-only per VIS (method-agnostic).

Field identification cues

- Surface-catch class (MSRT)
- SC-0 when effect is optical only (gloss/tone shift without relief).
- SC-1 (slight) where very shallow micro-texture is present; SC-2 (clear) is uncommon but possible on severe overheats approaching frosted appearance. Perform one light, non-marring pass (polymer stylus if a coating is suspected).
- Visual signature

Classification, severity and scope

- Assign CAT by appearance + MSRT + morphology (three-part cueing). Depth/relief values are indicative-no measurement required.
- CAT-1 (Benign/non-relief): Sheen/tone shift only; SC-0; visible primarily in raking at close/standard view. Indicative relief: ~0-10 µm (optical only).
- CAT-2 (Light): Subtle modeled micro-texture, SC-1; limited impact at standard view; boundaries remain soft. Indicative relief: ~10-40 µm.
- CAT-3 (Moderate): Clear detect (SC-2) with apparent modeled micro-texture at standard view; still no pits/craters, no chip flanks. Indicative relief: ~40-120 µm.
- CAT-4 (Severe): Pronounced matte/frosted lane from overheating/incipient devitrification; distinct at standard & wide-field views; no discrete pepper. Indicative relief: ~120-300 µm+.

Distinguishing criteria

- vs. Linear scoring (M.01): Scoring shows abrasive lines with chip-flank sparkle and SC-2 along edges; burn lines show modeled micro-texture/gloss shift with soft boundaries.
- vs.
- vs. Hot-particle peppering (Th.01.xx): Slag/sparks present discrete fused nodules or pits with bright rims; burn lines lack discrete pepper.

Documentation and inspection

- Photo set (VIS): 12 / 36 / 72 in, normal + oblique, include raking macros resolving micro-texture within the band; add context frames showing tool path or nearby abrasive.
- MSRT result: Record SC-class (SC-0/1/2) with one light, non-marring pass; polymer stylus on suspected coated faces.
- 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-th-02-02-overheated-grinder-belt-burn-line/>