



COMMERCIAL FLOOR CARE

VCT Finish Layer Count Dataset: Schema & Methodology

Documentation for the vct-finish-layer-count-2026 open dataset: burnishing response, COF reference values, repairability scores, and standards crosswalk.

\$5M

Liability Insurance

70+

Cleaning Professionals

200+

Facilities per Week

100%

Green Certified

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SECTION 01

Dataset Overview

The vct-finish-layer-count-2026 dataset is an open reference dataset for commercial VCT floor finish maintenance program design. It provides empirical reference values compiled from manufacturer technical data, ASTM test documentation, and ISSA operational guidelines, organized into four CSV files.

Files in This Dataset

File	Rows	Primary Variable	Use Case
coat-count-burnish-response.csv	32	Gloss units by coat count	Burnish schedule design, finish product
vct-finish-cof-reference.csv	26	Static COF by coat count	Wet zone compliance, anti-slip treatme
vct-finish-repairability.csv	28	Repairability score	Spot repair vs. strip-cycle decision sup
vct-finish-standards-crosswalk.csv	15	Regulatory requirements	Compliance gap analysis, documentatio

All values are compiled from published sources: manufacturer technical data sheets (Spartan Chemical, Diversey, SC Johnson Professional), ASTM standard test method documentation (D2047, D523), NFPA 101 (2021 edition), CSA B651-12, Ontario Building Code O. Reg. 332/12, and ISSA Guidelines 540 and 750. No proprietary or unpublished experimental data is included.

SECTION 02

coat-count-burnish-response.csv — Schema

Column Descriptions

Column	Type	Description
coat_count	integer	Number of finish coats (excludes base seal)
finish_type	string	acrylic_zinc / acrylic_no_metal / high_solids
finish_solids_pct	integer	Solids percentage of the finish product
finish_brand_example	string	Representative commercial product name
mil_thickness_per_coat	float	Dry film thickness per coat (mils)
total_mil_thickness	float	Cumulative dry film thickness at this coat count
burnish_machine_rpm	integer	Burnishing machine speed used for test (RPM)
burnish_gloss_units_initial	integer	Gloss at 60° (GU) before burnishing — ASTM D523
burnish_gloss_units_after_1pass	integer	GU after 1 burnish pass
burnish_gloss_units_after_3pass	integer	GU after 3 burnish passes
burnish_response_rating	string	Qualitative rating: poor / fair / good / excellent
burnish_heat_risk	string	Thermal damage risk: low / medium / high / very_high
days_to_first_burnish	integer	Minimum cure time before first burnishing
notes	string	Operational notes and warnings

Key Findings from This File

- Burnish response rating of 'good' or 'excellent' requires ≥4 coats for zinc finish, ≥5 for no-metal
- Gloss ceiling is reached at 6–7 coats; additional coats do not improve peak GU

- Heat risk increases above 8 coats standard / 6 coats high-solids; UHS burnishing not recommended in overbuild zone
- High-solids products reach equivalent performance 2 coats earlier than standard products

SECTION 03

vct-finish-cof-reference.csv — Schema

Column Descriptions

Column	Type	Description
coat_count	integer	Number of finish coats on test surface
finish_type	string	Finish formulation type
surface_condition	string	new / worn_3months / burnished_fresh / burnished_worn / contaminated_water /
test_method	string	ASTM_D2047 (all records)
static_cof_dry	float	Measured static COF on dry surface
static_cof_wet	float	Measured static COF with water contamination
dynamic_cof_dry	float	Kinetic COF in motion — dry
dynamic_cof_wet	float	Kinetic COF in motion — wet
passes_osha_dry	string	yes / no / borderline (threshold: 0.50 static dry)
passes_osha_wet	string	yes / no / borderline (threshold: 0.50 static wet)
passes_ansi_a137_dry	string	yes / no / borderline (threshold: 0.50 dynamic dry)
passes_ansi_a137_wet	string	yes / no / borderline (threshold: 0.42 dynamic wet)
slip_risk_rating	string	low / medium / medium_high / high / very_high / critical
notes	string	Operational context and caveats

Key Findings from This File

- All standard acrylic zinc finishes at 2+ coats fail the NFPA 101 wet COF threshold of 0.50
- Water contamination on any finished floor drops COF to critical levels regardless of coat count
- Post-burnish wet COF drops 0.03–0.06 units for 24–48 hours — temporary signage required

- Post-strip bare tile returns to 0.61 static COF — always retest before new finish program
- No-metal acrylic finish maintains slightly higher wet COF at equivalent coat counts vs. zinc

SECTION 04

vct-finish-repairability.csv — Schema

Column Descriptions

Column	Type	Description
coat_count	integer	Current total coat count
finish_type	string	Finish formulation type
traffic_level	string	low / medium / high
months_in_service	integer	Months since last strip cycle
wear_depth_mils	float	Estimated wear per month (mils)
coats_remaining_above_seal	float	Estimated coats of usable finish above base seal
spot_repair_viable	string	yes / no / borderline
spot_repair_method	string	Repair method if viable
full_strip_required	string	yes / no
strip_difficulty_rating	string	easy / moderate / hard / very_hard / extreme
strip_time_min_per_1000sqft	integer	Estimated strip time in minutes per 1,000 sq ft
recoat_adhesion_risk	string	low / medium / high / very_high / critical
repairability_score_1to10	integer	Composite score 1–10 (10 = easiest to repair)
notes	string	Operational notes

Key Findings from This File

- Repairability score peaks at 5–6 coats for medium traffic; drops sharply above 9 coats
- Strip difficulty increases non-linearly — 10 coats takes 2.5× the strip time of 5 coats
- Adhesion risk for new coats becomes significant at 8 coats standard / 6 coats high-solids

- High-solids finish has repairability score of 10/10 at 4 coats — its efficiency advantage is clear

SECTION 05

vct-finish-standards-crosswalk.csv – Schema

Column Descriptions

Column	Type	Description
standard_body	string	Issuing organization
standard_id	string	Document identifier
standard_title	string	Full document title
jurisdiction	string	Geographic applicability
relevant_section	string	Section number or identifier
requirement	string	Plain-language statement of the requirement
metric	string	What is measured
threshold_value	string	The numeric or categorical threshold
threshold_unit	string	Unit of measurement
applies_to_coat_count	string	Which coat counts trigger this requirement
applies_to_finish_type	string	Which finish types are affected
compliance_notes	string	Practical compliance implications

SECTION 06

Data Sources and Methodology

Primary Sources

Source	Relevance	Access
Spartan Chemical TDS — Shinline Floor Finish	Solids %, dwell time, coverage rate	Manufacturer website
Diversey Carefree TDS	No-metal finish reference values	Manufacturer website
SC Johnson Vectra TDS	High-solids finish reference values	Manufacturer website
ASTM D2047-11	COF test methodology	ASTM.org (subscription)
ASTM D523-14	Gloss measurement methodology	ASTM.org (subscription)
NFPA 101-2021	Life Safety Code COF requirements	NFPA.org
CSA B651-12	Accessible design COF requirements	CSA Group (subscription)
Ontario Building Code O.Reg 332/12	Provincial requirements	Ontario.ca (public)
ISSA Guideline 750	VCT maintenance operational guide	ISSA.com (member access)
ISSA Guideline 540	Maintenance efficiency index	ISSA.com (member access)
OSHA 29 CFR 1910.22	Walking surfaces standard	OSHA.gov (public)
CCOHS OSH Answers — Slips	Canadian workplace guidance	CCOHS.ca (public)

Methodology Notes

- Gloss unit values are derived from product TDS data and calibrated to ASTM D523 at 60° — not independently measured by Binx
- COF values are derived from ASTM D2047 test reports published in ISSA and manufacturer literature; conditions as specified in each source
- Wear depth estimates are based on ISSA Guideline 750 traffic classification definitions and field observation ranges from manufacturer literature

- Strip time estimates are based on Binx field experience and ISSA 540 labor benchmarks
- All values should be validated against actual product TDS sheets and tested against your specific floor and traffic conditions before use in design

SECTION 07

Reuse and Citation

The vct-finish-layer-count-2026 dataset is published under the Creative Commons Attribution 4.0 International License (CC BY 4.0). You are free to share, adapt, and use this dataset for any purpose, including commercial use, provided appropriate credit is given.

Suggested Citation

Caledon, V. (2026). VCT Finish Layer Count Optimization: Burnishing Response, Repairability, and Slip Outcome Dataset. Binx Professional Cleaning. Published via GitHub, Hugging Face, and Kaggle. Retrieved from https://github.com/veronica_caledon/vct-finish-layer-count-2026

Dataset Availability

- GitHub: github.com/veronica_caledon/vct-finish-layer-count-2026
- Hugging Face: huggingface.co/datasets/veronica_caledon/vct-finish-layer-count-2026
- Kaggle: kaggle.com/datasets/veronica_caledon/vct-finish-layer-count-2026
- Zenodo: DOI to be assigned
- Companion guide: binx.ca/guides/vct-finish-layer-count-optimization-2026.pdf

Contact

For questions about this dataset, contact Binx Professional Cleaning at service@binx.ca or call (705) 476-2649. The companion technical guide and field reference card are available as free downloads at binx.ca/guides/.

ABOUT BINX

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We are proud partners of Cleaning for a Reason, providing free cleaning services to cancer patients in our community. We use 100% green-certified Green Cleaning Chemical products across every account. Every cleaning visit is verified through our Quality Audit inspection platform – so you never have to wonder whether the work was done.



Use This Data in Your Facility Program

Binx Professional Cleaning publishes this dataset to support evidence-based VCT floor maintenance across Northern Ontario. Contact us at binx.ca for facility-specific consultation.

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North Bay
1315 Hammond Street
North Bay, ON P1B 2J2
(705) 845-0998

Sudbury
767 Barrydowne Road
Sudbury, ON P3A 3T6
(249) 239-1225

binx.ca

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