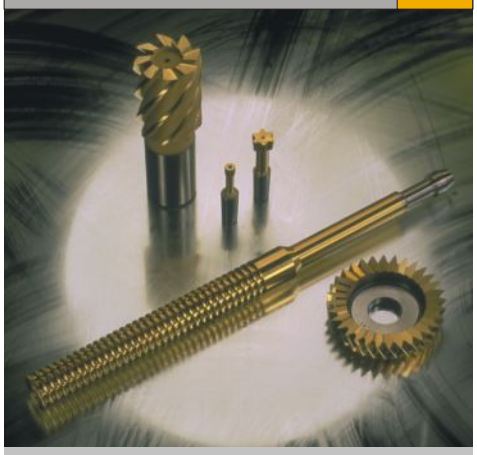
SWISS TEK
COATINGS, INC.

High Performance
PVD Tool Coatings

Standard Coatings

TiN



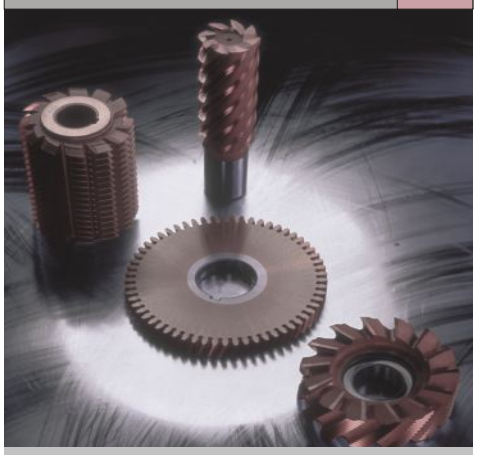
The **general-purpose coating** for cutting, forming, injection molding as well as tribological applications.

TiCN

Conventional carbon nitride coating:

- for interrupted cutting
- for milling and tapping
- for stamping, punching and forming

TiCN-MP



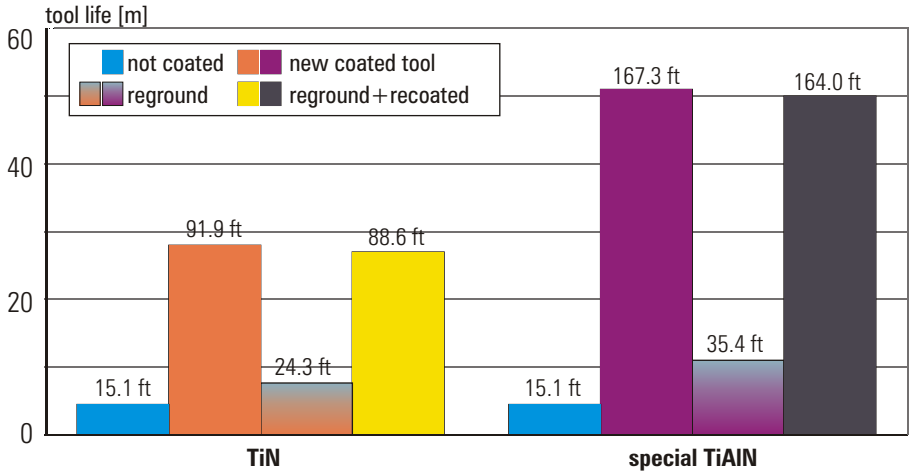
The **tough MultiPurpose** coating for interrupted cutting, milling, tapping, stamping, forming and hobbing.

TiAlN

The new **universal high-performance coating** for cutting (drilling, milling, reaming, turning). Also suitable for dry machining.

Drilling

Tool Life Comparison



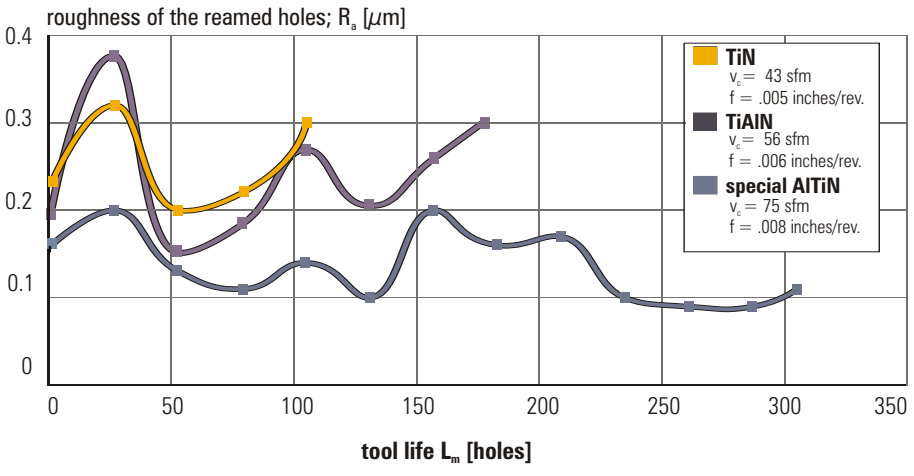
Work piece: wheel hub, Material: 38MnV35 (heat treatable steel), tensile strength = 116,000 psi, Ext. coolant: emulsion 7% Tools: solid carbide K40UF, d=12.6 mm, v_c=256 sfm, f = .001 inches/rev.

AlTiN

Special high-performance coating for dry high speed machining. AlTiN performance surpasses all conventional coatings when machining cast iron and hardened steel.

Reaming

Coating Wear Behavior



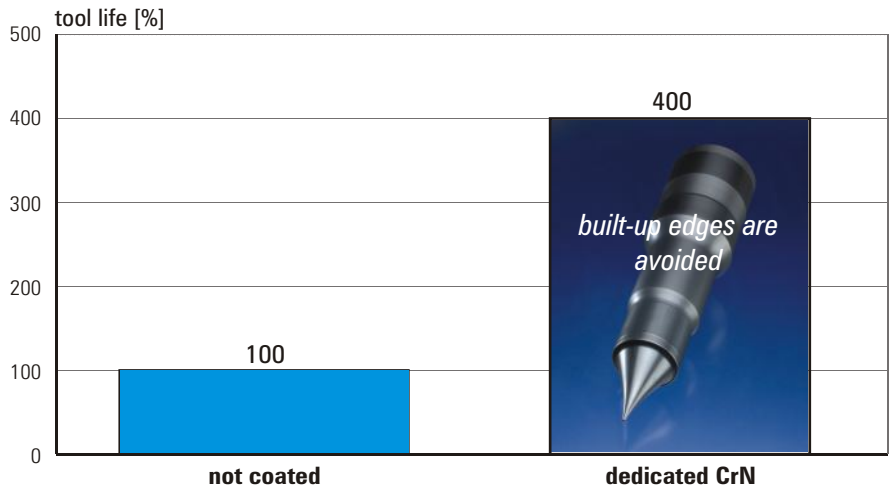
Tools: d=6.2 mm, Coolant: emulsion 7% Material: D-2 tool steel, DIN 1.2379

Specialty Coatings

CrN

Coating for forming applications:
- for **molds and dies** and **machine components**
- optimum release for forming tools
- low deposition temperature possible (approx. 250 °C / 480 °F) - please inquire.

Dry Deep Drawing — Tool Life Comparison



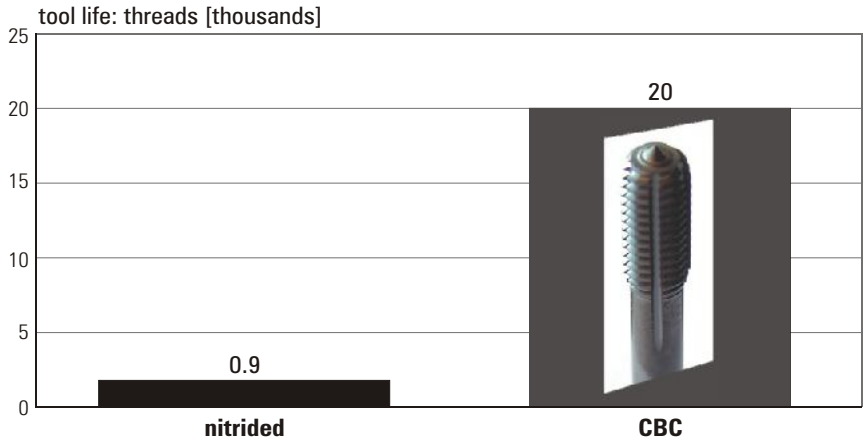
Work piece: pure copper; Tool material: tool steel; Coating temp.: approx. 200 °C

CBC (DLC)

Special **gradient** coating. **Self-lubrication** as its own coating or on the top of an appropriate hard coating.

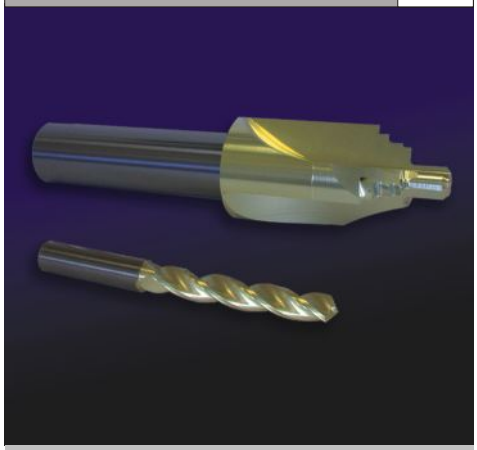
CBC: carbon-based coating
DLC: diamond-like carbon

Tapping — Tool Life Comparison



Work piece: 356Al (7% Si) - Tools: M10x1.5 HSS - Coolant: emulsion 8%

ZrN



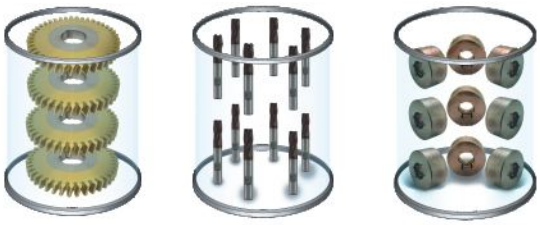
Special-purpose monolayer coating. Effectively reduces the built-up edge when machining aluminum and titanium alloys.

Swiss-Tek Service

Competition

Standard TiN
For all tools and parts

Swiss-Tek



Special TiN
For milling cutters

Special TiAlN
For end mills

Special TiCN
For punches and dies

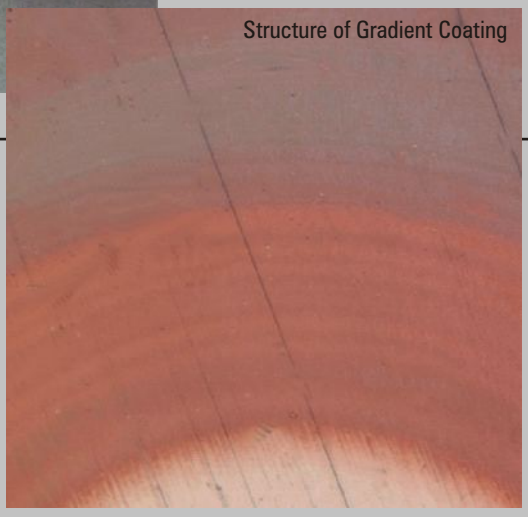
With high-volume coating, job coaters apply the same coating to all parts in the batch, regardless of their type or application.
Swiss-Tek applies dedicated coatings optimized for each application.
Small batch sizes ensure fast turn-around times!

About Swiss-Tek Coatings, Inc.

Swiss-Tek Coatings was established in 2000 to provide the highest quality PVD coatings for tooling and wear parts. Swiss-Tek utilizes state-of-the-art equipment in all areas of processing, from cleaning to coating and quality assurance. All batches are coated with absolute uniformity, ensuring the repeatability of the coating's quality and performance.

Coating Requirements

- PVD tool coatings are typically applied between 2-4 microns. This may vary according to tool type.
- PVD coatings are applied at a temperature of 450 °C / 840 °F under a high vacuum.
- All carbides and HSS (M-series and T-series) including powder metal types. Tool, die, and mold steels may be coated if they have been properly tempered prior to coating. Other materials are possible, please inquire.



Structure of Gradient Coating

Map

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