



# COIN DIES & PRINTING PLATES



ECOLOGICAL CLEANING SOLUTIONS

 SWISS QUALITY



# COIN DIES AND PRINTING PLATES: CLEANING



# OUR DECOATING PRODUCTS

## CLEANING AND SURFACE PREPARATION

Expanding the lifetime of printing of tools in the coins and notes manufacturing industry: Die punches and printing plates.

### SUBSTRATES MATERIALS:

- HSS Steel
- Cold work steel
- Copper

### COATINGS:

- Tin, TiCN, TiC;
- AlTiN; AlTiSiN;
- AlCrN
- CrN



### PRINTING PLATES: COATED COPPER

Used for the Intaglio printing, a critical step of notes manufacturing which makes the note much more difficult to counterfeit.

Engraved copper plates are coated to increase hardness of the surface and sustain the multiple tons pressure of the rolling press while printing up to 1 Million notes before being replaced.

For a perfect PVD coating preparation, our rinsing free and copper compatible detergents will guarantee a spot free result, while a mild acid finish will improve the adherence of your coatings.

## DETERGENTS AND FINISHING SOLUTIONS

PRODUCT	pH	TYPE	FUNCTION	APPLICATION/CONTAMINATION
KORROSTOP 5000	13.7	Detergent	Spray or ultrasonic process	Corrosion protection
VACUKLEEN SUPRA II	14		Universal cleaner, free rinsing	
HELIT 2022	8.4			
RODASTEL 30	0.5	Finishing detergent	Deoxidation, neutralization and activation of surfaces	

## CLEANING OF TEMPERED STEEL PARTS:

### CLEANING

**VACUKLEEN SUPRA II**  
Tap water  
Conc.: 3-5%  
Temp.: 60-70°C  
140-158°F  
Time: 3-5 min

**TAP WATER RINSE**  
Temp.: 20-30°C  
68-86°F  
Time: 3-5 min

### FINISHING

**KORROSTOP 5000**  
Tap water  
Conc.: 0.02-0.1%  
Temp.: 20-30°C  
68-86°F  
Time: 1-3 min

**DI WATER RINSE**  
Temp.: 20-30°C  
68-86°F  
Time: 30secs-1min

**HOT AIR DRYING**

US

US



### FERRODEC 56

Powdered product for the decoating of aluminium or titanium based layers on steel tools.

#### Benefits:

- Cost-effective
- Fast decoating
- Efficient decoating on Ti and Al based PVD/CVD coatings



### EXCARBONITE 222

Powdered alkaline liquid product for the decoating of chromium or silicon based layers on steel tools.

#### Benefits:

- Very efficient on Cr and Si layers
- Suitable for all types of Steel
- Efficient decoating on DLC(Cr) or DLC(Si) layers



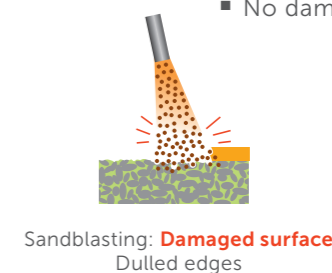
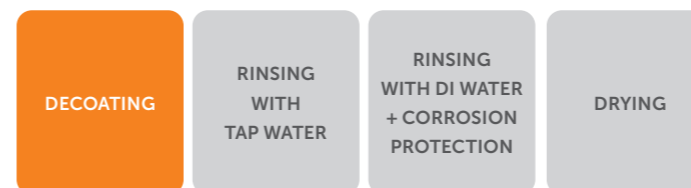
### UNICERAL 308

Acidic liquid product for the decoating of titanium, aluminium or zirconium PVD layers on carbide tools.

#### Benefits:

- Ready to use
- Optimized protection of carbide substrates
- Shiny effect after stripping process
- No damage to tools edges

## TYPICAL DECOATING PROCESS FOR HSS TOOLS:



## DECOATING CENTRE IN BOCHOLT, GERMANY

Our decoating processes are suited for PVD, CVD and PACVD deposited layers.



NGL develops and provides decoating solutions and services for small to large pieces such as molds, parts sizes up to 1.5m in diameter and weighing up to 5t.

Our expertise extends to intricate and long parts, with blind holes and deep cavities.

Send us blanks for trials if you wish!

### COIN DIES:

Carbon steel, HSS, quenched steel, to obtain maximum hardness for cold forming. Parts are often coated with a PVD layer to increase hardness and improve friction, thus extending the lifetime of the tool, up to 200 000 stamped coins.

Once the tool coating starts to wear, the PVD layer can be removed by our chemical process, which does not damage the engraving or edges of the die. Parts can then be cleaned and protected against corrosion until they get recoated.



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MADE IN  
GERMANY

