

# Surpro surface-finishing

## List of machines & coating technologies

No.	Designation	Brief description
01	Automatic electroplating units	
01.1	Electroplating-row 1+2 with transverse transport	Equipped with flexible control system „Galvano Vario“, hence simple programming of processes with very high precision. A mix of goods can be run at any time, high flexibility and exact to the second exposure times. The control system is designed for small and large batches. It offers batch tracing and batch documentation of all process parameters. Laser-guided positioning system for positioning of plating racks accurate to the millimeter.
01.2	Electroplating-row 3	Equipped with flexible carrier control system. As a mix of goods can be produced it is suitable for small series. The control system also allows the production of high-volume batches. The bath-volumes are between 200ltr. and 700ltr.. The unit is designed exclusively as a rack electroplating unit.
01.3	Electroplating barrel	Designed for small parts (bulk goods), manual control with carrier-support, max. bath volume is 300ltr..

**Do you have questions regarding the list of machines or types of coating?  
Give us a call - we are there to help.**

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No.	Electrolyte	Max. thickness	Hardness in HV	Fineness in %	Carat	Amount of foreign metal
02	Type of coating					
02.01	Pre-gold (for direct gilding of high-grade steel)	10 microns	165	99.7	23.3	0.3% Co
02.02	Au 1 N	5 microns	240	98.0	23.5	0.2% Ni/In
02.03	Au 2 N	5 microns	240	97.2	23.3	0.2% Ni/In
02.04	Au 3 N	10 microns	150 - 170	97.7	23.3	0.3% Fe
02.05	Bright silver	on request	120	99.8	-	-
02.06	Palladium/Nickel	10 microns	620	-	-	80% Pd / 20% Ni
02.07	Platinum	1 microns	500	99.9	-	
02.08	Copper	on request	220	-	-	-
02.09	Black-chrome	on request	400 - 500	-	-	-
02.10	White-chrome	on request	900 - 1,100	-	-	-
02.11	Tin-nickel	3 microns	780 - 850	-	-	65% Sn / 35% Ni
02.12	Tin-nickel anthracite	3 microns	780 - 850	-	-	65% Sn / 35% Ni
02.13	Dull-/ semi-dull- / bright nickel	on request	up to 600	-	-	
02.14	Copper / silver anti-tarnish protection	Dipping procedure on aqueous basis as tarnishing protection of copper and silver.				
02.15	Cathodic dip-paint lacquer (KTL)	Cathodic dip-painting for small parts in various colours on request				

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No.	Designation	Amount	Brief description
03	Cleaning procedures		
03.01	Compact-flood-unit	2	Full-vacuum-cleaning unit for halogen-free hydrocarbons, cleaning support by ultrasonic and flooding, latest filter technology and automatic export of greases for steady cleaning quality. Optimal energy efficiency by integrated heat recovery, fully automated loading and unloading system, work-chamber lid made of glass with illumination for visual control of cleaning process. Designed for product carriers of 530 x 320 x 200mm
03.02	Ultrasonic	5	Aqueous cleaning baths with ultrasonic support for rack and barrel goods
04	Etching units	3	<p>To accomplish customer wishes towards manifold and challenging surfaces, SURPRO works with wet chemical etching equipment. All used etching procedures correspond with prior masking- and laser-engraving-techniques and especially enable complicated surface patterns. The possibilities created due to this are defined as follows:</p> <ul style="list-style-type: none"> <li>• Etching of flat and rotationally symmetric parts, complete as well as partial</li> <li>• Various etching-depths up to 0.3mm sharp-edged</li> <li>• Etching-solutions defined by the material</li> </ul> <p>Etchable materials: high-grade steel, silver, copper-metals</p>