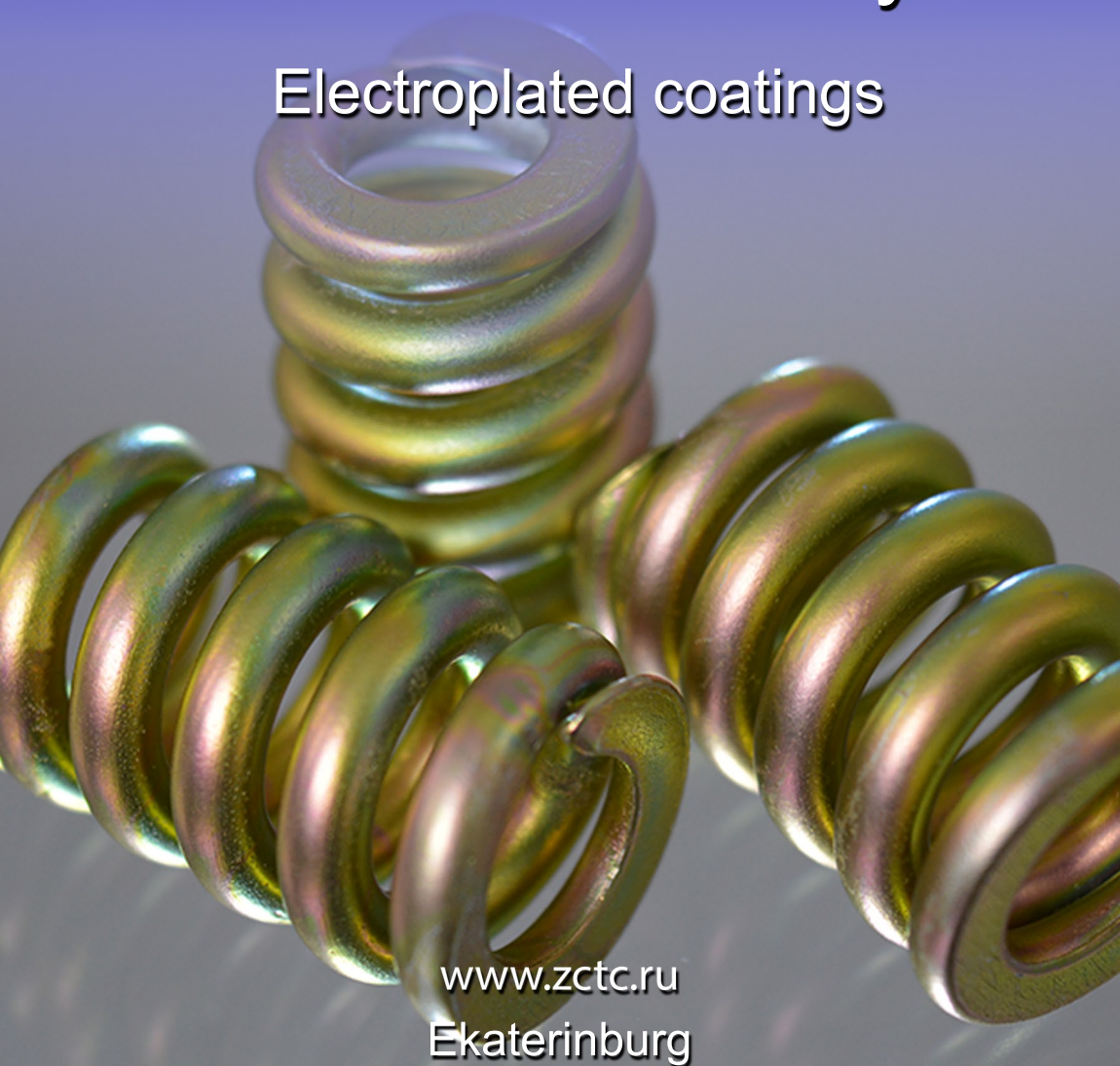




NPP Elektrokimiya

Electroplated coatings



www.zctc.ru
Ekaterinburg



Application of galvanic and chemical coatings.

- Own production. 50 types of coatings
- We work in accordance with GOST 9.305-84. ISO 9001 certified
- We cover most materials (including aluminum, stainless steel, etc.)
- Extra urgent orders - coverage time from one hour
- Three-step quality control, we provide a certificate
- Trial batch - free
- Own chemical and testing laboratories
- We accept orders from all regions. Discounts on transport costs
- We organize the transportation of products on our own
- Over 4000 photos of our work are presented on the site

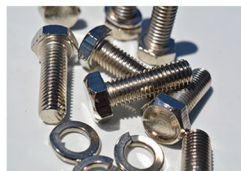
List of our products



Zink plating



Tin plating



Nickel plating



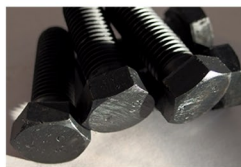
Copper plating



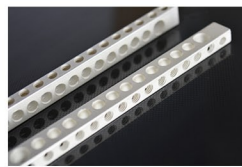
Chrome plating



Anodizing



Steel oxidation



Silver plating



Lead plating



Phosphating



Aluminum oxidation



Passivation

As well as multilayer coatings, etching and much more. Installation of production under the specific order is possible.



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Zinc plating with olive chromating.....	6
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Protective-decorative and special coatings

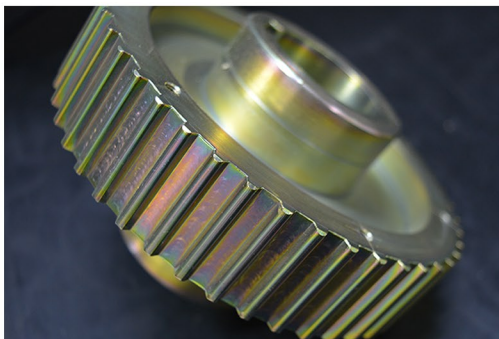
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Zink plating with rainbow chromate

Protection of steel against corrosion in various operating conditions

Designation: Zn [thickness]

Applied to all types of steel, cast iron, Zn-Al-Cu-alloy

Microhardness: 500-1200 MPa

Resistivity (18°C): $5.75 \cdot 10^{-8} \text{ Ohm} \cdot \text{m}$

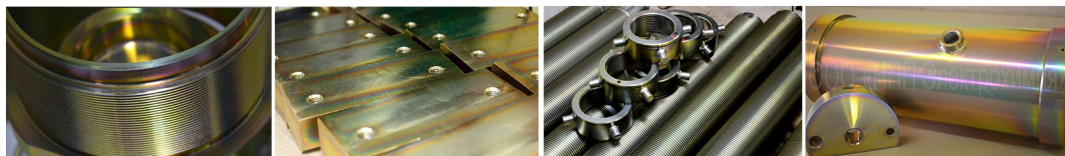
Operating temperature: up to +300°C

Advantages of electroplating:

- Protects steel from corrosion in both light and heavy duty applications, even if the coating is scratched or chipped (anodic protection)
- Over time, it restores protective properties in case of minor mechanical damage (the “self-healing” property of the chromate film)
- Provides easy make-up of threaded parts
- Medium plasticity, in some cases withstands bending, flaring, etc.

Disadvantages of electroplating:

- Low abrasion resistance of chromate film
- Protective properties decrease at temperatures above +70°C
- Increased brittleness at temperatures above +250°C and below -70°C
- Low chemical resistance to products released during aging of organic materials and in a salt environment



Alternative cover:

Zinc plating with colorless chromitizing (page 5)

Galvanized with olive chromating (page 6)



Zinc plating with colorless chromitizing

Protection of steel against corrosion in light conditions, decorative finishing

Designation: Zn [thickness] (Cr3+)

Applied to all types of steel, cast iron, ZN-Al-Cu-alloy

Microhardness: from 500 to 1200 MPa

Resistivity (18°C): $5.75 \cdot 10^8 \text{ Ohm} \cdot \text{m}$

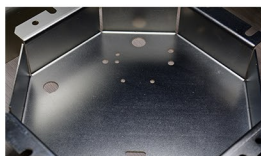
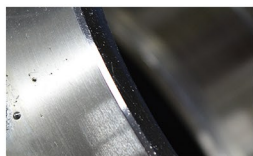
Operating temperature: up to +300°C

Advantages of electroplating::

- Improves the appearance of parts. Has a uniform silver color
- Protects steel from corrosion even if the coating is scratched or chipped (anodic protection)
- Provides easy make-up of threaded parts
- Medium ductility, in some cases withstands bending, flaring, etc.
- Complies with European environmental requirements (does not contain hexavalent chromium)

Disadvantages of electroplating:

- Low abrasion resistance of chromite film
- Chromite film does not have the property of "self-healing"
- Increased brittleness at temperatures above +250° and below -70°C
- Low chemical resistance to products released during aging of organic materials and in saline environments



Alternative cover:

Zinc plating with rainbow chromate (page 4)

Nickel plating (page 10)



Цинкование с оливковым хроматированием



Excellent steel corrosion protection in harsh operating conditions

Designation: Zn [thickness]

Applied to all types of steel, cast iron, Zn-Al-Cu-alloy

Microhardness: 500-1200 MPa

Resistivity (18°C): $5.75 \cdot 10^8 \text{ Ohm}\cdot\text{m}$

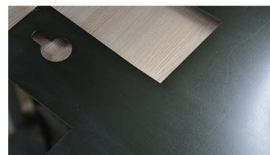
Operating temperature: up to +300°C

Advantages of electroplating:

- Maximum protection against corrosion of steel (compared to other types of galvanizing) in severe operating conditions, even in the presence of scratches or chips of the coating (anodic protection)
- Restores over time the protective properties in case of minor mechanical damage (the "self-healing" property of the chromate film)
- Provides easy make-up of threaded parts
- Medium ductility, in some cases withstands bending, flaring, etc.
- Used in the processing of parts of military equipment, has a characteristic color

Disadvantages of electroplating:

- Low abrasion resistance of chromate film
- Increased brittleness at temperatures above +250° and below -70°C
- Low chemical resistance to products released during aging of organic materials



Альтернативные покрытия:

Zinc plating with rainbow chromate (page 4)



Zinc plating with phosphating



Reliable protection of steel against corrosion in a saline environment (during oiling), primer for painting

Designation: Zn [thickness]

Applied to all types of steel, cast iron, TsAM

Microhardness: from 500 to 1200 MPa

Dielectric

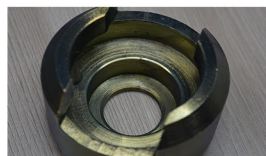
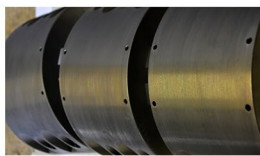
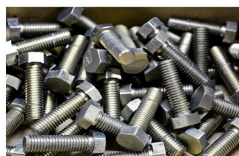
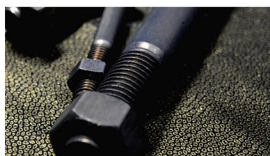
Operating temperature: up to +300°C

Advantages of electroplating:

- Replaces toxic cadmium coating (according to GOST 9.305-84)
- Resistant in saline environments
- Excellent adhesion to paints and varnishes
- Protects steel from corrosion even if the coating is scratched or chipped (anodic protection)
- Complies with European environmental requirements (does not contain hexavalent chromium)

Disadvantages of electroplating:

- Non-uniform matte gray color, low decorative properties
- Increased fragility
- Does not have the property of "self-healing" unlike chromate films



Alternative cover:

Tin-Nickel plating (page 18)

Cadmium plating (page 9)



Zinc plated with black chromate

Decorative blackening of steel with high anti-corrosion properties

Designation: Zn [thickness]

Applied to all types of steel, cast iron, Zn-Al-Cu-alloy

Microhardness: 500-1200 MPa

Resistivity (18°C): $5.75 \cdot 10^{-8} \text{ Ohm} \cdot \text{m}$

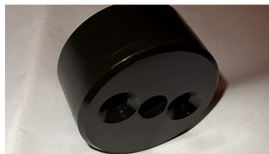
Operating temperature: up to +300°C

Advantages of electroplating:

- Deep black color
- Protects steel from corrosion even in the presence of scratches or chips of the coating (anodic protection), in contrast to chemical oxidation
- Perfectly replaces chemical oxidation of steel in cases where increased requirements are placed on products for corrosion resistance
- Possibility of black chromium-free passivation

Disadvantages of electroplating:

- Mandatory oiling required
- Low abrasion resistance of black chromate film
- Increased brittleness at temperatures above +250° and below -70°C
- When bending, flaring, the black chromate film may be damaged



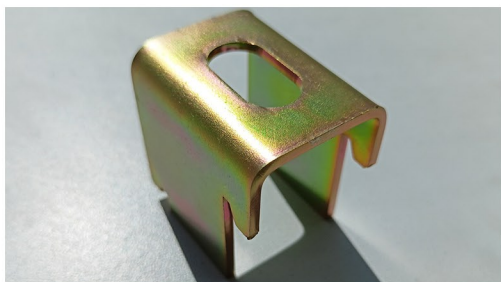
Alternative cover:

Chemical oxidation (page 20)

Zinc plating with rainbow chromate (page 4)



Cadmium plating



Protection of steel against corrosion in saline operating conditions

Designation: Kd [thickness]

Applied to all types of steel, cast iron, Zn-AL-Cu-alloy

Microhardness: 600-1500 MPa

Resistivity (18°C): $7.6 \cdot 10^{-8} \text{ Ohm} \cdot \text{m}$

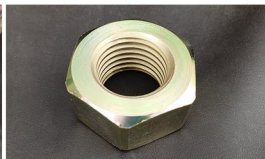
Operating temperature: up to +300°C

Advantages of electroplating:

- Protects steel from corrosion in salty operating conditions, even in the presence of chips and scratches on the coating (anodic protection)
- Easily diffuses into the base metal and an alloy is formed at the “metal-coating” interface, which has a beneficial effect on the adhesion of cadmium to steel
- Provides easy screwing of threaded parts
- Medium plasticity, in some cases withstands bending, flaring, etc.

Disadvantages of electroplating:

- Low abrasion resistance of chromate film
- Does not perform a reliable protective function in the absence of a salt background
- Easily soluble in mineral acids, especially nitric acid
- Low chemical resistance to products released during aging of organic materials



Alternative cover:

Zinc plating with colorless chromitizing (page 5)

Zinc plating with rainbow chromate (page 4)



Nickel plating



Protective and decorative coating with medium wear resistance

Designation: Ni [thickness]

Applied to all types of steel (including stainless steel), cast iron, copper and its alloys, aluminum, dielectrics

Microhardness: 4500-5000 MPa

Resistivity (18°C): $7.23 \cdot 10^{-8} \text{ Ohm} \cdot \text{m}$

Operating temperature: up to 650°C

Advantages of electroplating:

- Protects copper and its alloys even when chipped or scratched (anodic protection)
- Protects steel in the absence of pores and chips (for a single-layer coating with a thickness of 24-30 microns, for a multi-layer coating - from 9-12 microns)
- Effective as an undercoat for other types of coatings (gold, titanium nitride, etc.)
- High gloss, especially on the copper sublayer, 75% reflectance. May replace polishing in some cases
- 100% resistant to alkalis
- High hardness comparable to hardened steels (5000 MPa)

Disadvantages of electroplating:

- The coating is brittle, does not withstand plastic deformation
- Is an allergen in contact with human mucous membranes
- When applied in a single layer porously up to a thickness of 24 microns (pitting corrosion on steel is possible)



Alternative cover:

- Chrome plating (page 11)
- Chemical nickel plating (page 19)



Chrome plating

(hard, decorative, matte, milky, black)

Protective and decorative coating of a wide profile

Excellent wear and heat resistance

Can be applied to all types of steel (including stainless steel), cast iron, brass, bronze, aluminum, dielectrics

Operating temperature: up to 1100 °C

Advantages of electroplating:

- High degree of protection against corrosion of steel without chips, cracks, scratches
- Excellent corrosion resistance in a three-layer design of Copper-Nickel-Chrome
- Protects copper and its alloys even when chipped or scratched (anodic protection)
- Heat resistant
- Vacuum resistant
- Food grade coating

Disadvantages:

- Uneven coverage of complex profile products
- Low plasticity
- Poor wettability
- High brittleness and low resistance to point impact loads. Does not withstand plastic deformation
- Low adhesion
- Does not solder

	Hard	Milky	Decorative	Matte	Black
Designation	Cr [thickness]	Cr [thickness]	Cr [thickness]	Cr [thickness]	Cr [thickness]
Microhardness (MPa)	6000-11000	4500-5000	5000-7500	3500-4000	2940-3430
Gloss degree	High	Low	High	Low	Minimum (reflectance 3-4%)
Thickness restrictions	No	No	Up to 3 microns. Only on a sublayer of copper or nickel	No	Up to 1 µm
Unique properties	Maximum wear resistance	Easy to run in, can be polished	Maximum gloss level	Low adhesion of the coating in contact with other metals	Excellent anti-reflective coating





Copper plating

Spark-explosion-proof, decorative, electrically and thermally conductive coating

Designation:

Shiny - Cu [thickness]

Matte - Cu [thickness]m

Can be applied to all types of steel (including stainless steel), cast iron, brass, bronze, aluminum, dielectrics

Microhardness: 600-1500 MPa

Resistivity: $1.68 \cdot 10^{-8} \text{ Ohm} \cdot \text{m}$

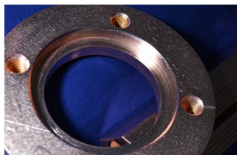
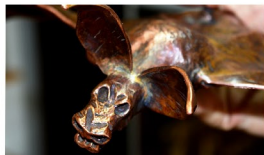
Operating temperature: up to 300°C

Advantages of electroplating:

- Does not produce sparks during friction and impact
- Effective as an undercoat under other types of coatings
- High thermal and electrical conductivity
- Opaque copper plating - highly plastic, withstands bending, flaring
- Perfectly polished and soldered
- Decoratively patinated (artificially aged)

Disadvantages of electroplating:

- Poor anti-corrosion properties at thicknesses less than 24 microns
- Not recommended for use with low temperature solders
- Oxidizes in air
- Unstable transient electrical resistance



Alternative cover:

Nickel plating (page 10)

Tin plating with tin-bismuth alloy (page 15)

Tin plating with tin-lead alloy (page 16)



Anodizing

Protective and decorative oxide coating,
primer for painting

Designation: Anodizing

Applied to aluminum

Microhardness: 2000-5000 MPa (depending
on alloy grade)

Average electrical resistivity (18°C): 10^{12}
Ohm*m

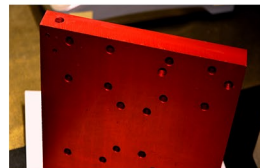
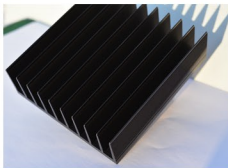
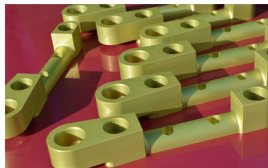
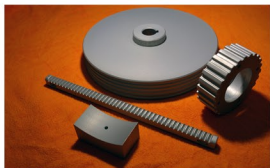
Operating temperature: up to +100°C

Advantages of electroplating:

- High wear resistance
- Ideal highly porous primer for painting (powder-polymer, enamel, varnish)
- Dielectric, breakdown voltage increases with coating thickness
- High thermal insulation properties
- Exceptional adhesion to base metal
- Excellent coverage of complex products
- Dyed by filling in aniline dyes (black, gold, red), chromates
- Does not change the size of the product, incl. when filling in dyes

Disadvantages of electroplating:

- Fragile enough
- Technologically difficult to cover small or light parts without special equipment



Alternative cover:

Chemical oxidation of aluminum (page 22)



Leading

Anti-friction coating resistant to sulfuric acid

Designation: Pb [thickness]

Applied to all types of steel (including stainless steel), cast iron, brass, bronze, aluminium, dielectrics

Microhardness: 60-90 MPa Resistivity (18°C):
 $0.21 \cdot 10^{-9} \text{ Ohm} \cdot \text{m}$

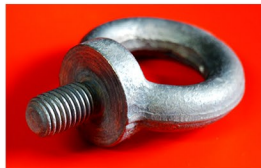
Рабочая температура: до +300°C

Advantages of electroplating:

- One of the best anti-friction coatings
- Easy to solder
- High resistance to sulphurous atmosphere, dilute sulfuric acid
- Perfectly seals threaded connections
- Protects copper from corrosion even when chipped and scratched (anodic protection)
- Protects steel from pores and chips
- X-ray resistant at 2 mm thick

Disadvantages of electroplating:

- Not wear resistant
- Matte gray uneven color
- Contact with human skin is not desirable



Alternative cover:

Tin plating with tin-lead alloy (page 16)

Chemical phosphating (page 21)



Tin plating with tin-bismuth alloy



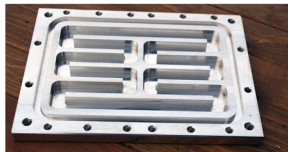
Protective and decorative coating for copper and aluminum. Solder coating
Designation: Sn-Bi [thickness]
Bismuth content: 0.5-2%
Can be applied to all types of steel (including stainless steel), cast iron, copper, aluminum, brass, bronze, dielectrics
Microhardness: 120-200 MPa
Resistivity: $11.5 \cdot 10^{-8} \text{ Ohm} \cdot \text{m}$
Operating temperature : up to 200°C

Advantages of electroplating:

- Excellent protection of copper and its alloys, even in the presence of chips or scratches (anodic protection)
- Protects steel from pores and chips. Above 6 μm , the coating is pore-free
- Stabilizes transient electrical resistance
- Excellent solderability for at least a year from the date of application
- Stable at temperatures below -30°C. Not subject to "needling"
- Resistant to the action of sulfur-containing compounds. Recommended for use on products in contact with plastics and rubbers
- The coating is plastic, has good screwing and anti-friction properties

Disadvantages of electroplating:

- Low wear resistance
- Non-food coating (due to the presence of bismuth in the composition)



Alternative cover:

Tin plating with tin-lead alloy (page 16)

Leading (page 14)



Tin-plating with tin-lead alloy



Anti-friction coating, coating under soldering

Designation: Sn-Pb [thickness]

Applied on all types of steel (including stainless steel), cast iron, brass, bronze, aluminum, dielectrics

Microhardness: 80-150 MPa

Resistivity: $11.5 \cdot 10^{-8} \text{ Ohm} \cdot \text{m}$

Operating temperature: up to 200°C

Advantages of electroplating:

- Highly plastic, has excellent anti-friction properties and screwing properties. Good resistance to plastic deformation. Perfectly seals threaded connections
- Protects copper and its alloys even when chipped or scratched (anodic protection)
- Protects steel from pores and chips
- Well soldered
- Stable at temperatures below -30°C
- Relatively stable transient electrical resistance

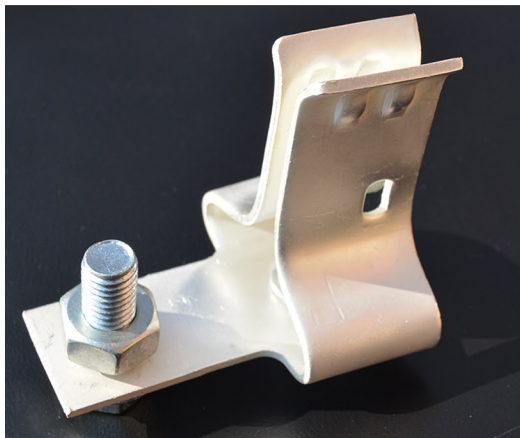
Disadvantages of electroplating:

- Low wear resistance
- Non-food coating (due to the presence of lead in the composition)
- Matte non-uniform gray color



Alternative cover:

Tinning with tin-bismuth alloy (page 15)



Silver plating

Protective and decorative coating with high thermal and electrical conductivity

Designation: Ag

Applied to copper and its alloys, aluminum, all types of steel (including stainless steel), cast iron, dielectrics

Microhardness: 600-1400 MPa

Resistivity: $1.6 \cdot 10^{-8} \text{ Ohm} \cdot \text{m}$

Operating temperature: up to 300°C

Advantages of electroplating:

- Significantly improves the surface electrical conductivity of the contacts, stabilizes the transient electrical resistance
- Characterized by high thermal conductivity
- Perfectly reflects light
- Good solderability
- The coating is plastic, withstands bending
- It has pronounced anti-friction properties

Disadvantages of electroplating:

- Low wear resistance
- High cost
- Under the influence of sulfur-containing compounds, the transition electrical resistance of the coating increases



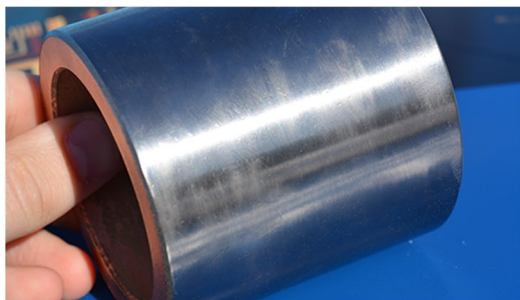
Alternative cover:

Tin plating with tin-bismuth alloy. (page15)

Tin plating with tin-lead alloy (page 16)



Tin-plating with tin-nickel alloy



Acid-resistant wear-resistant coating
Designation: Sn-Ni (60) [thickness]
Applied to all types of steel (including stainless steel), cast iron, brass, bronze, aluminum, dielectrics
Microhardness: 5600-6000 MPa
Transient electrical resistance: 0.25-0.55 Ohm
Operating temperature: up to 350°C

Advantages of electroplating:

- Combination of high corrosion resistance, hardness and ductility
- Resistant to concentrated nitric acid, dilute sulfuric and hydrochloric acids
- Maintains solderability for more than two years after deposition
- Protects copper and its alloys from corrosion even when chipped or scratched (anodic protection)
- Possesses decorative appearance. Silver color with a slightly pinkish tinge
- Evenly deposited even on complex profile products

Disadvantages of electroplating:

- High coating porosity even at thicknesses over 50 µm
- Permissible operating temperature lower than pure nickel or chrome plating



Alternative cover:

Chrome plating (page 11)

Tin plating with tin-bismuth alloy (page 15)



Chemical nickel plating with nickel-phosphorus alloy

Protective and decorative coating for complex profile parts

Designation: Chem.Ni-P [thickness]

Phosphorus content: 2-15%

Applied to all types of steel, copper and its alloys, aluminum

Microhardness: 6500-10000 MPa

Average resistivity (18°C): $4.61 \cdot 10^{-8} \text{ Ohm} \cdot \text{m}$

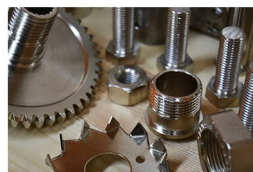
Operating temperature: up to +650°C

Advantages of electroplating:

- Excellent even coverage of complex parts, superior to electroplated nickel
- Protects copper and its alloys even when chipped or scratched (anodic protection)
- Protects steel without pores or chips
- Capable of fresh soldering
- Effective as an undercoat on aluminum parts
- High degree of gloss. Less porous than electroplated nickel
- 100% resistant to alkalis
- High hardness: without annealing comparable to hardened steels (5000 MPa), после отжига - с твердым хромом (10000 МПа)

Disadvantages of electroplating:

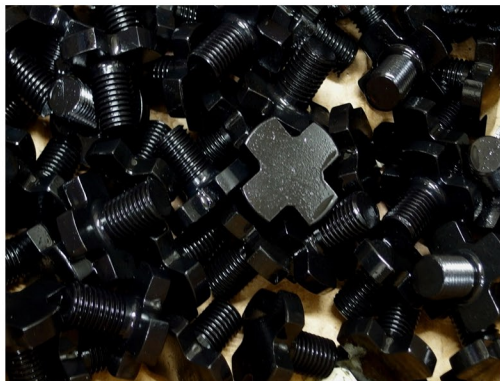
- The coating is brittle, does not withstand plastic deformation. Doesn't handle shock well
- Is an allergen in contact with human mucous membranes
- Strong hydration during coating without post-annealing



Alternative cover:

Nickel plating (page 10)

Chrome plating (page 11)



Chemical oxidation of steel with oiling

Protective and decorative blackening of steel
with acceptable protective properties

Designation: Chem.oxidation

Applied to steel

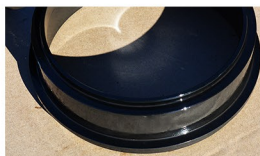
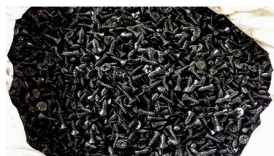
Coating thickness 2-3 microns

Advantages of electroplating:

- Decorative black color
- Practically does not change the dimensions of the product, does not affect the physical and mechanical properties
- Does not change its color at elevated temperatures
- Excellent uniformity of coating of complex profile parts

Disadvantages of electroplating:

- Not applicable without oiling
- High porosity, lower protective properties compared to galvanizing
- Low abrasion resistance
- Not capable of soldering or welding



Alternative cover:

Zinc plating with black chromate (page 8)

Chemical phosphating (page 21)



Chemical Phosphating

Protective/adhesive coating for oiling or painting

Designation: Chem. phosphating

Applied to steel

Microhardness: depends on steel grade

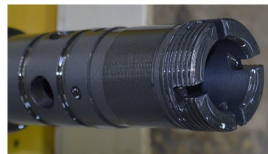
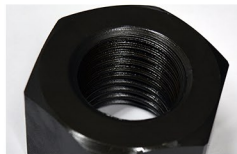
Operating temperature: up to +300 °C

Advantages of electroplating:

- In combination with oiling, it has good protective characteristics.
- Does not change the microhardness, strength and magnetic permeability of the base metal
- Is a dielectric (breakdown voltage - 300V)
- In the amorphous version, it is an ideal primer for painting

Disadvantages of electroplating:

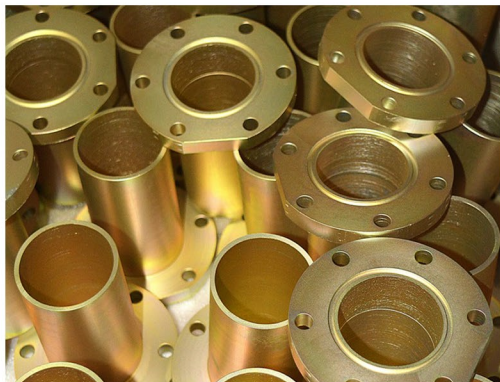
- Instability to alkalis and acids
- The film is mechanically weak, brittle, does not withstand plastic deformation
- The coating is not capable of soldering or welding
- Poor wear resistance when paired with harder materials



Alternative cover:

Zinc plating with phosphating (page 7)

Chemical oxidation (page 20)



Chemical oxidation of aluminum

Inexpensive protective coating of aluminum
for painting

Designation: Oxide-fluoride (0.5-2 microns)

Oxide-phosphate (3-4 microns)

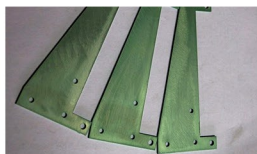
Microhardness: depends on the brand of
aluminum alloy

Advantages of electroplating:

- Excellent primer for painting
- May replace anodizing (light duty or primer) for small items and/or where good electrical contact cannot be made.
- Applied with less effort than anodizing, it is possible to cover parts in bulk, without current. All this allows for higher performance and a better price.
- Oxide-fluoride coating maintains electrical conductivity

Disadvantages of electroplating:

- Thickness and color are not adjustable
- Lower wear and corrosion resistance than anodized



Alternative cover:

Anodizing (page 13)



Passivation

Interoperational preservation of products

Designation: Chemical Passivation

Applied to all types of steel, copper and its alloys, aluminum

Advantages of electroplating:

- Temporarily protects products from oxidation
- Does not change the dimensions of products
- Relatively cheap operation

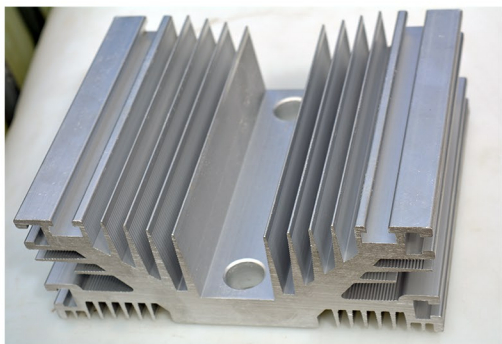
Disadvantages of electroplating:

- Without additional impregnation with oils or emulsions provides a low degree of protection against corrosion
- Increases the transient electrical resistance of products





Pickling



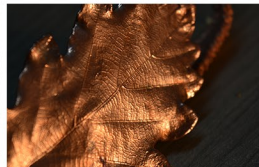
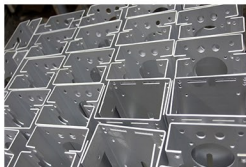
Removal of scale, rust, clarification of parts
All types of steel, copper and its alloys,
wrought aluminum are processed

Advantages of electroplating:

- Improves the appearance of the product
- Deep etching of aluminum removes scratches and creates a rough surface

Disadvantages of electroplating:

- Not recommended for use on copper and aluminum without subsequent protective treatment or conservation
- Not recommended for use on steel without subsequent protective treatment or conservation





Our production

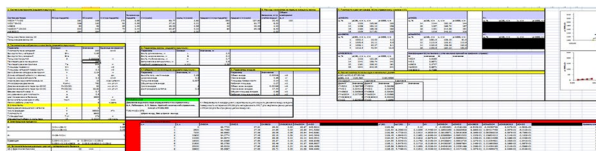
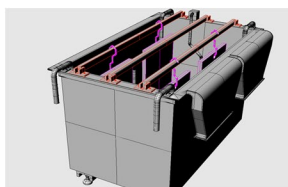
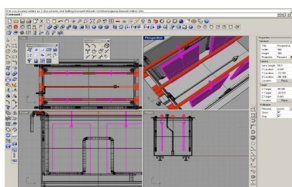
Since its inception in 2014, NPP Elektrokimiya has adhered to its principles to this day:



1. We have our own production facility, we never redirect work to intermediaries. In this case, we will not be able to provide the same good quality and the necessary deadlines for the completion of work.



2. We use mainly domestic equipment and developments from trusted suppliers as part of import substitution. In 2022, this has become especially true. Of course, to find a Russian analogue of an imported prototype with the same good quality, a lot of time, knowledge and testing costs are required. However, as a result, we not only invest in the domestic economy, but also get the opportunity to significantly reduce costs.



3. The company has a chemical-analytical and testing laboratory, we ourselves develop new electrolytes and technical processes for coatings, and do not purchase turnkey assemblies.



Special cases of application of coatings

Tin-plating of stainless steel



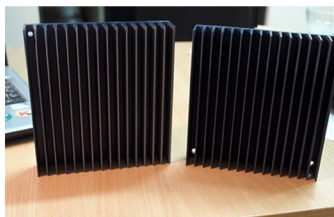
The coating of stainless steel with a tin-bismuth alloy can significantly increase its corrosion resistance in a humid saline environment (tropical conditions). In addition, tin-bismuth eliminates unwanted contact between stainless steel and aluminum when mating parts made of these materials (prevents the formation of a corrosive galvanic couple).

Copper plating tool



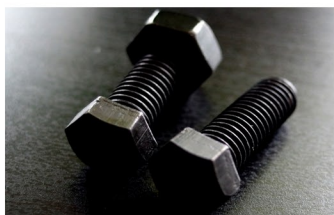
The copper coating does not give sparks during friction and shock, therefore, starting from a thickness of 24 microns, it can be used on steel tools for the purpose of spark and explosion protection. As the coating thickness increases, tool life increases. Copper-plated tools are used in explosive environments: mines, gas stations, flour mills, woodworking shops, etc.

Anodizing aluminum radiators



Despite the good chemical resistance of aluminum radiator in dry air, changing the environment to humid, salty, with impurities of various gases, reduces the natural aluminum protection to a minimum. Anodizing allows you to increase the corrosion resistance of the product tenfold. Filling the anodizing on the radiator in black increases heat transfer by 10-15% in the absence of forced cooling.

Black chrome plating



Due to its very low reflectance (3-4%), black chrome is an ideal anti-reflective coating often used on surgical instruments and measuring instruments.



Special cases of application of coatings



Electroforming and electroforming

The essence of the method lies in the ability to create exact copies of various objects using a solution of copper sulfate and electric current. Such majestic copper statues of the 19th century as Apollo, Silenus with Dionysus, Venus with Cupid, Venus Tauride, the Roman orator were created using the electroforming technique. The difference between electroforming and electroforming is that after coating, the product is not removed from the metal mold and remains inside forever.



Gas-tight

For metals used in vacuum installations, gas tightness requirements are often imposed. The gas diffuses into the metal, moving in the space between the nodes of the crystal lattice. The diffusion rate depends on the nature of the metal. In nickel, most inert gases are insoluble, so nickel coating is sometimes used to protect vacuum installations operating under high pressure and temperature.

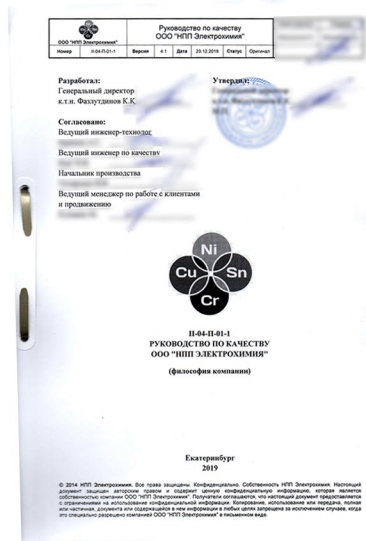


Chrome plating for the food industry

An extremely valuable feature of chrome coatings is their harmlessness to the human body. This led to the widespread use of chromium for coating food industry equipment and household items.



Quality Management System



The QMS created at the enterprise allows:

- Implement a process approach by standardizing every procedure and operation to ensure reproducible results;
- Build a self-developing lean enterprise
- Increase customer satisfaction
- Adequately respond to risks, realize opportunities.

Our mission

Promote the development of the country's industry by providing world-class electroplating services.

Provide a high standard of living for employees by creating opportunities for self-realization, development and creativity in a safe working environment.

Ensure the safety of employees from external economic and political factors

Support waste-free lean production with a closed water supply cycle.

Fund socially significant charitable projects.

Our principles

- Making a profit is not an end in itself, but without it, everything else is impossible.
- Our financial well-being is completely dependent on our clients, so meeting their requirements and expectations is of paramount importance.
- We stand behind our words and try to keep our promises on time.
- The world is unpredictable. The firm is an intermediary between each employee and the outside world. The firm, within its capabilities, must personally smooth out the negative aspects of domestic and foreign policy for everyone.
- Close-knit highly efficient team is the basis for the survival of the company itself.
- In the case of criticism within the team - evaluation of activities (positions), not personality.
 - The social obligations of the company are equal to the commercial ones.
 - If we do not improve today, tomorrow we will be on the sidelines. Continuous improvement is the responsibility of every employee.
 - We do not accept corruption and personal gain to the decision maker.
- Every employee must be aware of the goals and results of the firm.



Product quality control system

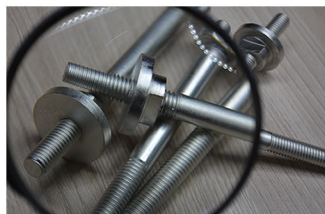
Control for compliance of product quality with the Technical Specifications and GOSTs consists of three stages:

I Stage. Full primary quality control of coatings in the workshop.

The initial control is carried out by the galvanizer who applied the coating directly. 100% of products are checked both with the naked eye and with the use of a special tool.

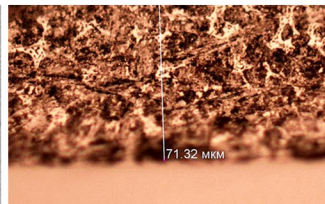
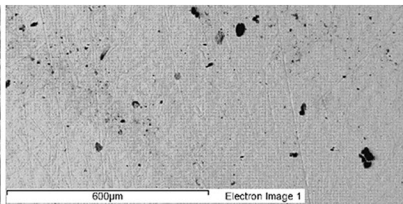
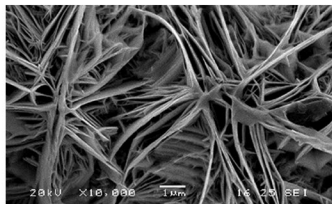
II Stage. Secondary selective quality control of coatings in the workshop

It is carried out by the Foreman of the site or the Head of production. A normalized sample of products (10%) is subjected to general visual and instrumental control. When discrepancies are identified, their cause is clarified. The batch in this case is not allowed for further inspection in the Quality Department and is returned for recoating.



III Stage. Control in the Quality Department

It is carried out by a quality engineer after successfully passing the previous two stages. In the quality control department, quality control is carried out according to approved methods based on GOST 9.302-88 "Metallic and non-metallic inorganic coatings. Control methods". You can see the full list of possible studies in our laboratories on pages 30 and 31.





Chemical laboratory

In its own chemical-analytical laboratory LLC "NPP Elektrokimiya" produces:

- Input control of reagents and anodes;
- Control of the composition of electrolytes for the main components and impurities;
- Environmental control of wastewater before discharge into the sewer for compliance with MPC standards;
- Development of new coatings, processing technologies, analysis methods.



Capabilities of our laboratory:

- Volumetric and potentiometric titration;
- pH-metry and ionometry
- Polarization studies;
- Conductometry
- Measurement of BOD and COD;
- Spectrophotometry;
- Colorimetry;
- Polarization research.





Test Lab

In the testing laboratory of NPP Elektrokimiya LLC, the following is produced:

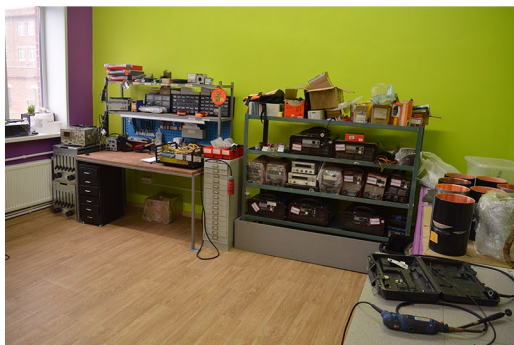
- Input control of parts going to the workshop for processing;
- Control of parameters of coatings on finished products.

The laboratory is equipped to perform the following tests:

- Appearance and degree of gloss;
- Adhesion of a covering to a basis;
- Porosity;
- Corrosion resistance, protective ability of non-metallic inorganic coatings;
- Thickness;
- Solderability;
- Chemical composition, density of the phosphate film;
- Transient, breakdown, electrical resistivity;
- Hardness;
- Oil absorption, degree of filling of anodic oxide coatings, completeness of washing of non-metallic inorganic coatings.

Research carried out in partner accredited laboratories:

- Atomic absorption spectral analysis;
- Optical emission spectral analysis with inductively coupled plasma
- Morphology and structure.





Our contacts

Customer Service

elhim.ekb@yandex.ru - ordering services for galvanic coatings (reception and calculation of applications, prices, terms, status).

8-912-044-66-44

Working hours: Mon - Fri from 09.00 to 17.00 (without lunch)

Organization details

Full name: Limited Liability Company "Nauchno-Proizvodstvennoe Predpriyatie Elektrokimiya"

Legal address: Yekaterinburg, st. Vysotsky, d. 5, apt. 592

Actual address: Yekaterinburg, Frontovyh brigades st., 18

General Director, Chief Engineer:

Ph.D. Fazlutdinov Konstantin Kamilevich

kfazl@yandex.ru - Comments and suggestions

8-953-822-86-85

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Gearbox: 667001001

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40702810416540008962 to the

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Russia", Yekaterinburg

corr/s: 30101810500000000674

BIC: 046577674

