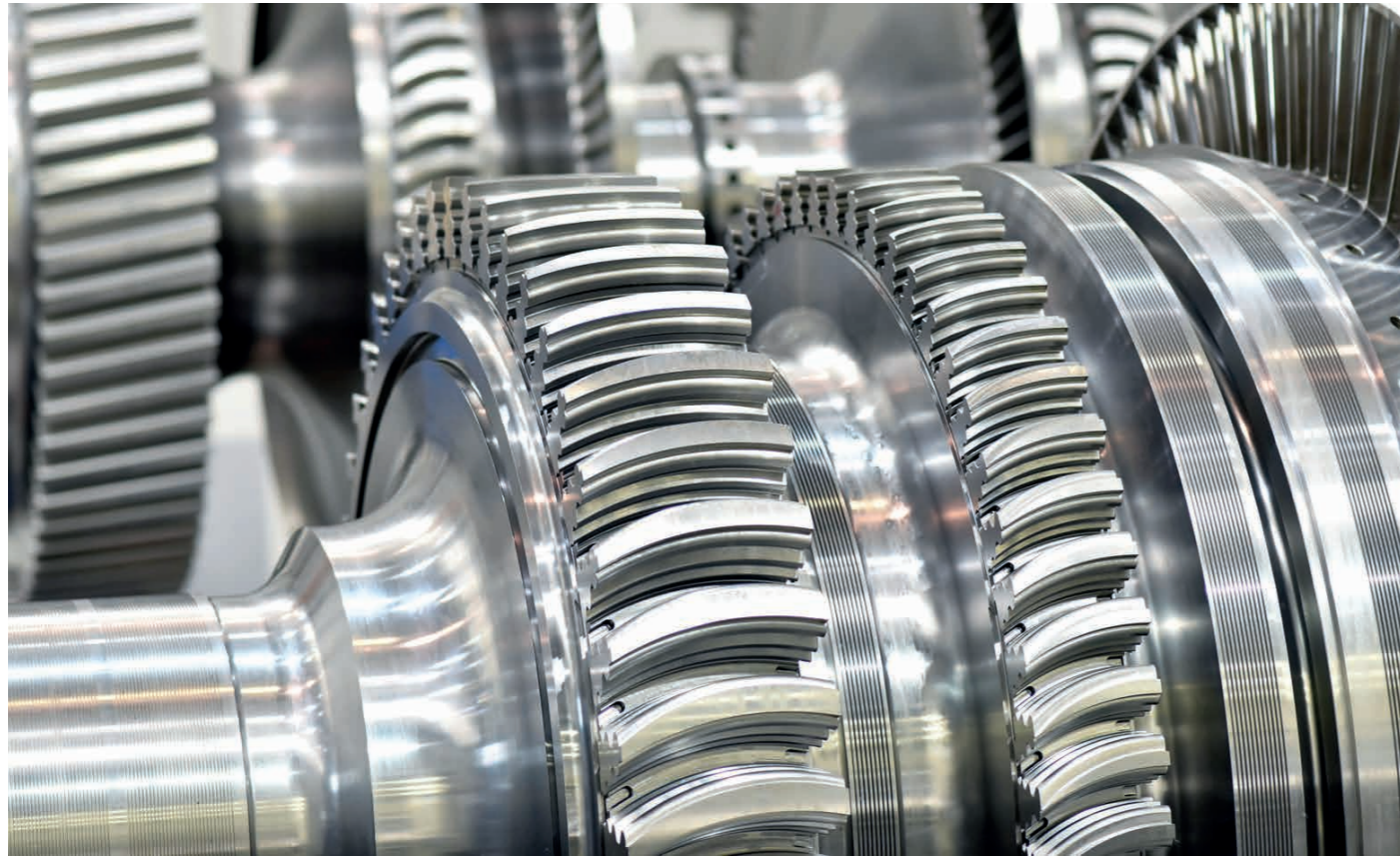




O LEGOR[®]

| INDUSTRIAL PLATING |

TECHNOLOGIES AND PROCESSES FOR INDUSTRIAL PLATING APPLICATIONS



PRE TREATMENTS

CHROME

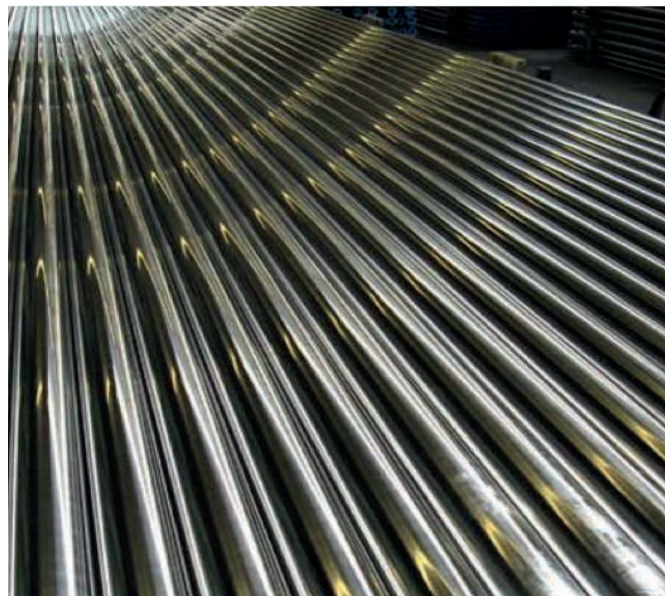
ELECTRO-LESS NICKEL

BRIGHT NICKEL

ZINC & ZINC ALLOY, PASSIVATION, SEALERS

ACID AND ALKALINE COPPER

ANCILLARY PRODUCTS





PRE TREATMENTS: NEATECH System

Liquid cleaners specifically formulated to be highly concentrated, designed to perform on any type of substrate.

NEATECH System allows:

- using a limited number of products in make-up and maintenance of degreasing solutions.
- the combination of few additives allows to fulfill the entire pretreatment cycle.
- avoiding dust formation during the preparation of work solutions.
- eliminating or minimization of the handling of packaging materials.

It is compatible with (and suggestable for) **continuous automatic dosing**.



CHROME: HARSH and DECRO Systems

Hard Chrome

HARSH System is the most advanced HC technology to eliminate micro-porosity and nodules for enhanced NSS corrosion performance. It is suitable for Hydraulic bars application as well as Automotive Shock Absorber, Rotors & Engineering.

By using **HARSTOP** fume suppressor, HARSH System is **totally mist free**. HC process without Foam or pinhole issues. **PFOS free**.

Decorative Chrome

DECRO System is a self-regulated decorative chroming process with liquid catalyst. It offers the advantage of a harder and shinier deposit than conventional systems.



ELECTROLESS NICKEL: NIDIP System

NIDIP System offers low, medium and high Phos EN processes.

Main High Phos process features:

- superior deposits passing the nitric acid test
- unique long life formulation
- excellent corrosion resistance
- excellent bath stability
- high ductility
- minimal porosity over 30 µm
- suitable for high thickness applications (> 200 µm)
- compressive stress (- 10 N/mm² to - 40 N/mm²)

NIDIP PTFE:

- high plating rate
- PFOS free
- ability to plate high thickness
- free of "orange skin" defect



BRIGHT NICKEL: NIGLOSS System

Last generation of bright Nickel process.

NIGLOSS with its component brightener system provides un-matched flexibility in terms of levelling and throwing power.

NIGLOSS users benefit by reducing total Nickel layer thickness because of excellent throwing power and the possibility to use less expensive base materials because of high levelling.

CRC - CORROSION RESISTENT COATING

ZINC & ZINC ALLOY:

- **ZIGRANT System**
Acid & Alkaline Zinc (CN free)
- **ZIPRO System**
Zinc-Nickel



PASSIVATION:

ZIFEND System

- blue
- clear Iridescent
- yellow
- black
- green
- hexavalent

SEALERS:

ZILAST System

- organic and inorganic sealers
- friction Control



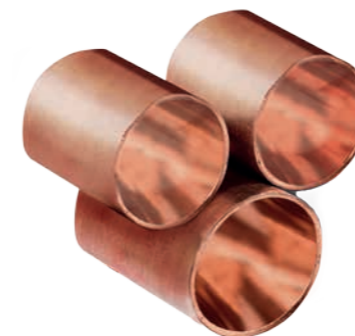
COPPER

ALKALINE COPPER: CUBASE System

- ideally suitable for zinc base die-castings.
- rack and barrel applications
- smooth bright deposits specially used for high current density operations

ACID COPPER: DECOP System

- highly ductile and extremely bright deposits.
- bath can be operated at wide bath temperature range 20 - 35 °C.



ANCILLARY PRODUCTS

- aluminum surface preparation
- blackening solution for copper and copper alloys
- acid activator salts
- acid-dip additives
- metal strippers
- antifoams



Metallurgy and Chemistry Specialists since 1979

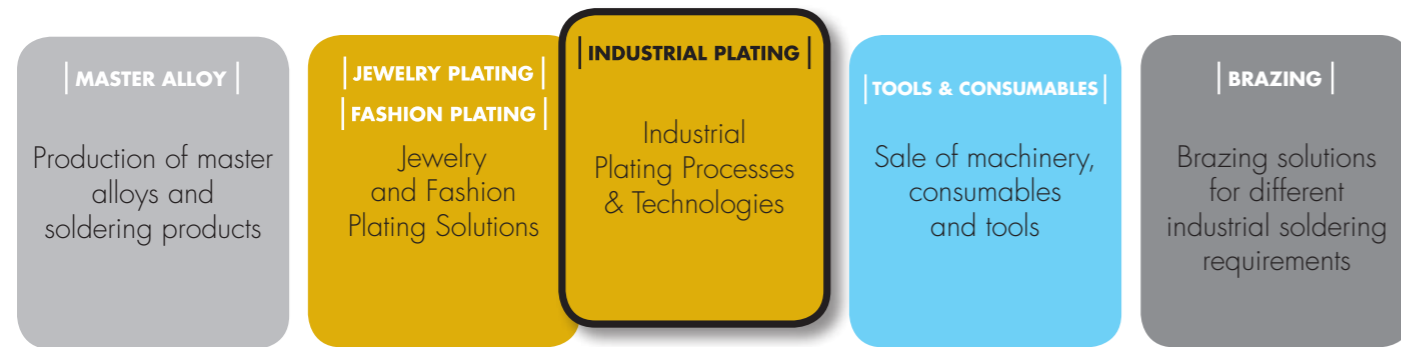
Legor Group S.p.A. is a reference point in the gold and silver jewellery and fashion markets for all cutting-edge production processes, as far as transformation, processing or finishing of precious and non-precious metals are concerned.

Over time Legor Group has made expertise and comprehensive on-the-ground presence its distinguishing features, giving it the edge over its competitors.

The whole production cycle is covered: from the raw material transformation to the final object finishing.

Recently Legor Group has implemented its Industrial Plating Line: a line of products completely dedicated to plating process installations of an industrial scale and the maintenance and management of precious and non-precious metal-based processes in excessive volumes.

It represents a new approach based on **best-in-class plating technologies**, tailored on specific Customers' needs.



Our Best-in-class Philosophy

- 1. SERVICE & TECHNICAL SUPPORT**
Our technical service is dedicated to optimizing the use of each product in the specific customer application, in order to achieve the best results and meet customer expectations.
- 2. QUALITY FIRST**
We believe in the importance of automation in process management, using automatic dosing / integration systems. We collaborate with our customers to provide all the information needed for this purpose.
- 3. QUICK ANALYTICAL SUPPORT**
Our in-house lab offers plating bath analysis ranging from chemical titration to metallic examination through the means of ICP. We understand the chemistry of our plating solution and are confident in what necessary additions to make, both organic and inorganic, to keep chemistry in good health.
- 4. TESTED PLATING DEPOSIT QUALITY**
Legor Group offers a variety of testing procedures to back the quality of our metal coatings. Using testing methods based on international normative compliance, we know how our plating solutions perform in a wide range of tests.

Company Certifications



Worldwide Branches & Commercial Offices in Italy

LEGOR GROUP Hong Kong

Unit C2, 4/F, Hang Fung Industrial Building, Phase 2 No. 2G Hok Yuen Street - Hung Hom - Kln - Hong Kong
tel. +852 2627 0011 (pbx) - fax +852 2627 0017
info_hongkong@legor.com

LEGOR GROUP China

Building C2, 1st Floor West, Shawan Jewelry Park, 999 Fulong Street, Panyu District, Guangzhou, China
tel. +86 20 3112 4571 - fax +86 20 3104 7316
info_china@legor.com

LEGOR GROUP South East Asia

(Gemopolis Industrial Estate)
29 Soi Sukhapiban 2, Soi 31, Dokmai, Praves, Bangkok 10250
tel. +66 2 7270008/105 - fax +66 2 7270020
info_lgsea@legor.com

LEGOR GROUP Usa

New Mexico
10590 2nd Street N.W. Suite C - Albuquerque NM 87114
tel. +1 844 428 8335 - fax +1 505 200 0558
New York
54 Allen Blvd. Suite A - Farmingdale NY 11735
tel. +1 844 428 8335
info_usa@legor.com

LEGOR GROUP Turkey

Kuyumcukent
Yenibosna Merkez Mah.Ladin Sok.No:4 - Atolyeler Blogu Zemin Kat 1 Sk No:23 - Yenibosna-Bahcelievler - Istanbul - Turkey
tel. +90 212 603 1922-23 (pbx) - fax +90 212 603 1924
Bazaar
Alemdar Mah. Himaye-i Etfal Sk. - Yildirim Han No:11/101 Cagaloglu - Eminonu - Istanbul - Turkey
tel. +90 212 511 1911 - fax +90 212 511 1908
info_turkey@legor.com

LEGOR GROUP Russia

Moscow
7 Prostornaya Street, Building 7
107392 Moscow
Russian Federation
tel. +7 985 211 3320
Kostroma
5 B Stankostroitel'naya Street, building B, office 1
156019 Kostroma
Russian Federation
tel. +7 4942 423233 - +7 4942 423521 - fax +7 4942 423233
Ekaterinburg
62 Chaykovskogo Street
620142 Ekaterinburg
Russian Federation
tel. +7 343 378 0498
info_russia@legor.com

LEGOR GROUP Arezzo

Strada A, 35 Z.I. - Località San Zeno - 52040 Arezzo (AR)
tel. +39 0575 998034

LEGOR GROUP Valenza

Via Noce, 13 - 15048 Valenza (AL)
tel. +39 0131 953437 - fax +39 0131 958004

Made in Italy

All Legor products are manufactured at the factory in Bressanvido (Vicenza, Italy), guaranteeing a high quality standard, batch repeatability and maximum competitiveness in terms of price. The production cycle begins with analyzing the needs identified by programmed planning function.



The Legor Lab

Legor Group has an **in-house R&D Laboratory** equipped with the latest technologies and sophisticated analytical instruments. Here, the team of technicians and engineers study, design and test formulations on a daily basis in order to anticipate and meet customers' needs and transform creative ideas into innovative targeted products.

In Legor Group innovation is a strategic business advantage.

This has led to achieve an undisputed market recognition and leadership in the industry. The results attained are reflected in the **numerous patents registered**, the many International recognitions achieved and the **global collaboration network** between industry experts, universities and research centers.



LEGOR® NUMBERS

1979	Since
5000	Sqm surface area (HQ)
50	Worldwide dealers
180	Employees
6	Worldwide branches
2	Commercial office in Italy
40	Percentage of jewels worldwide produced with Legor Group alloys
10.000	Customers
4	Divisions



LEGORGROUP.COM