Electroplating, Phosphating, Powder Coating and Metal Finishing

(Electroplating Plant, Copper Plating, Electroforming, Brass Plating, Silver Plating, Tin-Nickel Alloy Plating, Gold Plating (Gilding), Cadmium Plating, Zinc Plating)
Electroplating is a process that uses electric current to reduce dissolved metal cations so that they form a thin coherent metal coating on an electrode. The term is also used for electrical oxidation of anions onto a solid substrate, as in the formation silver chloride on silver wire to make silver/silver-chloride electrodes. Electroplating is primarily used to change the surface properties of an object (e.g. abrasion and wear resistance, corrosion protection, lubricity,
aesthetic qualities, etc.), but may also be used to build up thickness on undersized parts or to form objects by electroforming.

Powder Coating is a type of coating that is applied as a free-flowing, dry powder. The main difference between a conventional liquid paint and a powder coating is that the powder coating does not require a solvent to keep the binder and filler parts in a liquid suspension form.
The coating is typically applied electrostatically and is then cured under heat to allow it to flow and form a "skin". The powder may be a thermoplastic or a thermoset polymer. It is usually used to create a hard finish that is tougher than conventional paint.
Powder coating is mainly used for coating of metals, such as household appliances, aluminum extrusions, drum hardware, and automobile and bicycle parts. Newer technologies allow other materials, such as MDF (medium-density fibreboard), to be powder coated using different methods.
Phosphating is a chemical process for treating the surface of steel whereby metal-phosphate layers that are hardly soluble are formed on the base material. The layers created are porous, absorbent and are suitable without further treatment as a conversion layer for subsequent powder coating. They are also suitable as temporary corrosion protection if subsequently treated with oil, water or passivations.
Metal finishing has now come to be known as surface engineering. Surface engineering techniques are generally used to develop a wide range of functional properties. In addition to the decorative aspects, metal finishing aids the protection of metals and alloys from corrosion and rusting.
A great potential exists for development of new materials involving, for example, coatings of metals composites particle incorporated anodic coatings and even films of sapphire like materials, porous files of niobium etc. and coating of refractory metals like molybdenum and tungsten.
Market Outlook

The global electroplating market is expected to increase at an average CAGR over the forecast period.

The global electroplating market was valued above US$ 14,540.5 Mn in 2016 and is expected to expand at a CAGR of 3.7% to cross US$ 21,160.0 Mn by the end of 2026.
Electroplating Market
The global phosphate market was valued at 67.28 Billion in 2015 and is projected to reach 75.17 Billion by 2021, at a CAGR of 1.9% from 2016 to 2021.

The powder coatings market is projected to reach USD 13.49 Billion by 2022, at a CAGR of 6.75% from 2017 to 2022.
The global powder coatings market is witnessing high growth due to the superior and durable performance of powder coatings over traditional liquid coatings or paintings, especially in terms of usage. Also, flexibility, durability, and impact resistant characteristics are the other factors that make their performance superior to wet coatings. Also, powder coatings are eco-friendly and do not emit any volatile organic compounds.
They are highly resistant to physical, chemical, and environmental factors, which make them more suitable across diverse applications in the automotive, architectural, appliances, agricultural, and furniture industries. Vendors in the market are also coming up with application-specific powder coatings. Powder coatings used in the automotive industry are different from those utilized across the architectural and furniture industries.
The global powder coatings market size was USD 8.66 billion in 2015 and is expected to witness significant growth over the forecast period primarily owing to its various superior properties over conventional paints including high resistance to corrosion, high-quality finish, chipping and abrasion, durability, cost-effective, and reduced processing time.
U.S. Powder Coatings Market Volume

- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- 2021
- 2022
- 2023
- 2024

- Consumer Goods
- Architectural
- General industries
- Automotive
- Furniture
- Others

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Global Powder Coating Market Segmentation

- Resin Type
  - Epoxy
  - Polyester
  - Epoxy-Polyester
  - Acrylic
  - Polyurethane
  - Others

- Application Type
  - Consumer Goods
  - Automotive
  - Architectural
  - General Industries
  - Furniture
  - Other

- Regions
  - North America
  - Europe
  - Asia Pacific
  - Latin America
  - Middle East & Africa
The global metal finishing equipment market is growing, due to increasing need for wear resistant, durable and long lasting metal products, up surging demand from developing countries, and growth of automotive and steel industries.

The Global metal finishing market is growing at a CAGR of 6.50% during the period 2014-2020. Among all the segments in the market the inorganic metal finishing market dominates the rest in terms of both market share and volume.
Due to the increasing demand from end user industries such as Automotive, Electronics, Aerospace the global market for inorganic metal finishing technologies was worth $64.2 billion in 2014 and is expected to reach $95.8 billion with a CAGR of 6.91% by the end of 2020. Among the inorganic metal finishing technologies inorganic metal finishing processes have the largest share of market worth $42.1 billion in 2014. Surface preparation/pretreatment has the second largest market share worth $15.4 billion in 2014.
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- Aluminium And Aluminium Extrusion Profiles & Sections,
- Bio-fertilizers And Biotechnology
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- Bicycle Tyres & Tubes, Bicycle Parts, Bicycle Assembling
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- Engineering Goods
- Fibre Glass & Float Glass
- Fast Moving Consumer Goods
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- Herbal Based Projects
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- Infrastructure Projects
- Jute & Jute Based Products
- Leather And Leather Based Projects
- Leisure & Entertainment Based Projects
- Livestock Farming Of Birds & Animals
- Minerals And Minerals
- Maize Processing (Wet Milling) & Maize Based Projects
- Medical Plastics, Disposables Plastic Syringe, Blood Bags
- Organic Farming, Neem Products Etc.
Sectors We Cover

- Paints, Pigments, Varnish & Lacquer
- Paper And Paper Board, Paper Recycling Projects
- Printing Inks
- Packaging Based Projects
- Perfumes, Cosmetics And Flavours
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- Plantations, Farming And Cultivations
- Plastic Film, Plastic Waste And Plastic Compounds
- Plastic, PVC, PET, HDPE, LDPE Etc.
Sectors We Cover  cont…

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- Printing And Packaging
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- Rubber And Rubber Products
- Soaps And Detergents
- Stationary Products
- Spices And Snacks Food
- Steel & Steel Products
- Textile Auxiliary And Chemicals
Sectors We Cover

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