



**Hindustan Platinum**

# **ELECTRICAL CONTACTS**





Manufacturing Facility in India



Silver Bimetal Rivets

Profiles

Contact Assemblies

Wires and Strips



## Hindustan Platinum at a Glance

Established in 1961, Hindustan Platinum is a leading manufacturer and refiner of precious metal products and services that have a wide array of industrial applications. With an impressive legacy spanning over six decades, Hindustan Platinum is a specialist when it comes to refining precious metals and manufacturing precious metal products. We also provide a full spectrum of services that range from technical advisory to metal management.

Our drive for excellence, our perseverance to serve our customers' requirements, and our unflinching effort to build a global brand have enabled us to establish a customer base in over 50 countries across 5 continents. Supporting our global footprint are three subsidiaries in Mauritius, United Arab Emirates (UAE) and Puerto Rico.

- **Hindustan Platinum Private Limited, India**
- **Hindustan Platinum International Limited, Mauritius**
- **Hindustan Platinum, DMCC, UAE**
- **Hindustan Platinum P.R. LLC, Puerto Rico**

We serve a diverse set of industries such as Oil Refining, Petrochemical, Pharmaceutical, Chemical, Agrochemical, Flavours & Fragrance, Fine & Bulk Chemicals, Fertilizer, Sodium Nitrite/Nitrate, Industrial & Defence, Caprolactam & Cyanide, Mining, Switchgear, Home Appliances, Automobile, Glass, Jewellery, Man-made Fibre, Research and Analytical Laboratories and others.

Over the years, we have honed our in-house capabilities and supply technologically advanced products and services to our clients. Today, our team of over 950 multi-cultural and diversified professionals is dedicated to developing innovative solutions that create value for our customers. The on-going production capacity expansion at our Navi Mumbai plant will further enable us to cater to the growing demand for our products and services across the world. Our manufacturing unit's proximity to major airports and seaports is another strategic advantage that enables us to better serve our global customers.

At Hindustan Platinum, we understand the responsibility of being a manufacturer's manufacturer and are committed to delivering excellence across our portfolio of offerings. We work with our global partners for new product development as well as for process engineering and value engineering projects. Our steady investment in R&D has allowed us to continuously innovate and hone our refining and manufacturing capabilities.



## Accreditation

### London Good Delivery

Hindustan Platinum's Navi Mumbai refinery is on the London Platinum and Palladium Market (LPPM) Good Delivery List for Platinum and Palladium and on the London Bullion Market Association (LBMA) Good Delivery List for Silver. We are amongst a handful of refiners in the world to have obtained this accreditation.



### NABL

Hindustan Platinum's Analytical Testing Laboratory has been recognised as India's first NABL Accredited Testing laboratory vide Certificate Number TC-8930. This ISO/IEC 17025:2017 accreditation enables us to issue test certificates with ILAC MRA Mark for high purity Platinum, Palladium, Gold and Silver.

The accreditation stands testimony of our capabilities, robustness of our processes and strengthens our commitment to serve customers globally with quality management systems and proficient testing of precious metals.

[NABL - National Accreditation Board for Testing and Calibration Laboratories. ILAC MRA Mark is registered as a worldwide mark and is owned by the International Laboratory Accreditation Cooperation (ILAC).]



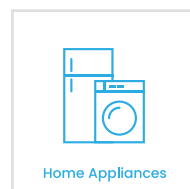
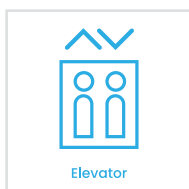
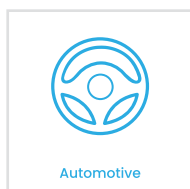
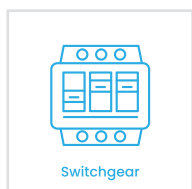


## Electrical Contacts

Little things make a big difference. Electrical Contacts are critical components of any electrical device, and it is often considered as the heart of the switchgear. They have a diverse usage and are intended to be used for numerous applications across industries such as switchgears, control gears, automotive, home appliances, elevators, spacecraft and many more.

Hindustan Platinum, being a leading global supplier of electrical contacts, assures top-notch quality that is driven by stringent scrutiny at each step. In our journey of excellence, we constantly strive for innovations—our value engineering service in terms of providing the alternate alloy composition enables our customer to reduce the contact size, thereby offering cost benefit to our customers without affecting their product properties. This led to considerable value creation for our customers.

## Industries We Serve



## Creating a Pathway with Every Charge

Hindustan Platinum manufactures contacts & contact materials for the low and medium voltage industries from simple shapes to complex geometries of the global standards. We also customize them specific to the needs of global markets. To achieve this, we consider all the factors, from the magnitude of current and voltage, type of load, contact protection to frequency and speed of operations. We pay equal attention to the emission of gases and fumes on oxidation, foreign contaminants and impurities, temperature and humidity. Our efforts extend to reduce the cost of contact to the customer, without compromising on the quality and effectiveness of the product.

### We Manufacture Custom-Made Electrical Contacts of Global Standards:

- Finished Products
- Semi- Finished Products
- Brazing Alloys
- Contact Assemblies



## RIVETS

### A) Solid Rivets

For superior electrical performance in a device or equipment, we manufacture a wide range of solid rivets in terms of different sizes and alloys used. For example- High-speed cold heading provides repeatability and high quality; Standard rivets are usually supplied with a solid shank and are also available with indent or chamfered shanks. The accompanying heads can be flat, radial, conical or customized.

### B) Bimetal Rivets

In a bimetal contact rivet, a layer of silver or silver alloy is bonded to a copper shank. Bimetal rivets can be provided with flat, radial, conical or customized heads. The shank could be solid, indent or chamfered in various sizes and specifications. In India, we were the first to introduce the Bimetal rivets in 1973. It was a revolutionary product, as it reduced the Silver content up to 60% leading to same performance at economical price.

### C) Tri-Metal Rivets

Tri-metal rivets have contact layers on both sides of the contact. This aids in making double-headed moving contacts.





## PROFILES

### A) Solid Profiles

We manufacture high quality solid profiles of various shapes and sizes, such as discs and blanks. The contact side can be flat, radial or conical. Solid contact profiles are available with or without a brazeable layer. The brazeable layer can be pure silver, silver cadmium or any other silver brazing alloy.

### B) Bimetal Profiles

Bimetal profiles are manufactured to fit all our customers' requirements and specifications. They have low electrical resistance and low material erosion at high temperatures. They also have the ability to withstand severe arcing. They are made by bonding fine silver or silver alloy directly to a base metal (usually copper, nickel or their alloys). They provide a smooth, dense, hard and wear-resistant precious metal face with improved dimensional accuracy. The corrosion resistance can be improved with silver or nickel plating.

### C) Tri-metal Profiles

Tri-metal profiles have contact layers on both sides of the contact. This aids in making double-headed moving contacts. Tri-metal profiles are thermally bonded through a process that provides an improved interfaced bond, better staking, longer contact life and an opportunity to significantly reduce rivet size.

### D) Projection Welding Buttons

Projection welding buttons provide added design flexibility, have no protruding shank and can have back-to-back welded buttons instead of double-headed solid rivets. They can be reliably welded to terminals without brazing agents. We have developed a special weldable copper, especially for these buttons, to which a fine silver or silver alloy face is bonded.



We are amongst the few internationally recognized companies that manufacture contact materials of premium standards. Hindustan Platinum's products are available in semi-finished forms like wires, anodes, strips and tapes that are used in electrical and electronic industries.

#### A) Silver & Silver Alloyed Wire

Hindustan Platinum manufactures silver and silver alloyed wires used in high tech machines for manufacturing assemblies. We export these wires to many companies worldwide.

#### B) Silver Anodes

We manufacture high purity silver anodes which are used in the electroplating industry. The fine grain structure of anodes results in uniform erosion and better life.

#### C) Silver & Silver Alloyed Strips

Used in high speed automation assembly lines, we manufacture silver and silver alloyed strips. These strips can be supplied with or without a brazeable layer, basis the customer needs. For Pure Silver Strips (99.99%), we can produce strips as thin as 38 microns.

#### D) Clad Strips

Available in various sizes, clad strips are composites with a contact face of silver or silver alloys with copper or copper alloy as the carrier material.







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### Brazing Alloys

Brazing alloy selection depends upon application, brazing method, metals to be joined, working temperature etc.

Hindustan Platinum produces high quality silver-based brazing alloys. We supply a wide range of filler materials in the form of foils, rods, strips, wires etc. to HVACR, Tooling and Electrical industries.

The amount of Silver in standard brazing alloys varies from 2% to 55%. We manufacture Cadmium free brazing alloys complying to RoHS requirement. Cadmium bearing alloys are also available, if required.

Silver Brazing Alloys are produced according to International Standard ISO 17672, however we also cater to customized specifications and sizes.

#### A) Wires / Rods

Brazing Alloys are available as wires and rods with standard diameter of 1.0mm. We can supply different sizes on request. They can be supplied in continuous form with different packaging such as spool, coil etc.

#### B) Strips

Brazing Alloys are available as strips with very low thickness. They can be supplied in continuous form with different packaging, such as Spool, Coil etc.

#### C) Pre-Form

Brazing Alloys are available in different shapes and sizes i.e. disc, square, rings etc. with very low thickness



We offer our customers complete assemblies including welded, brazed or riveted assemblies. The carriers are available in various base metals such as copper, brass, phosphor bronze, etc.

Carriers complementing contacts are available in extensive varieties like thin spring stampings (blades), intermediate size terminals and screw machine parts. Carrier materials are often made of base metals like copper, brass, phosphor bronze, mild steel etc.

Our expertise has enabled us to provide contact assemblies aligned to our customers' requirement through riveting, resistance brazing, furnace brazing and flame brazing.

#### A) Brazed

We braze Silver/Silver Alloyed Contacts on various types of carriers such as Copper/Brass using different brazing process such as resistance brazing, furnace brazing and flame brazing. We check the bonding strength by various methods on the final assemblies.

#### B) Riveted

We do riveting of Silver Alloyed Rivets & Silver Bimetal Rivets.





## ISO Accreditations

A strict emphasis on quality, integrity, and precision in all our business processes has ensured that all our businesses are certified by the International Organization for Standardization (ISO).



## Responsible. Sustainable.

Hindustan Platinum is more than just a business. It is a socially responsible business committed to positively impacting the environment and community. We believe that the world belongs to every living being. It is our duty to protect and nourish it for future generations. One of the key elements of our Mission statement is "Protecting the environment and community by striving for zero waste". We have pledged to implement sustainable business practices by embracing clean energy.



## Hindustan Platinum

Hindustan Platinum Pvt. Ltd.

VIOS Tower, 22nd Floor, New Cuffe Parade, Off Eastern Freeway, Wadala, Mumbai – 400 037, India.

+91 22 6922 5000

✉ [contacts@hp.co.in](mailto:contacts@hp.co.in)

🌐 [www.hp.co.in](http://www.hp.co.in)

