

SUSTAINABLE & RESPONSIBLE REFINING AT MMTC-PAMP INDIA

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MMTC-PAMP

Swiss Excellence. Made in India.



MMTC-PAMP India, a joint venture between PAMP SA Switzerland and MMTC Ltd, a Government of India Undertaking, operates the world's most advanced precious metals processing facility. As India's first LBMA Good Delivery refinery accredited for Gold and Silver, MMTC-PAMP India is setting new global standards for product excellence, customer service, environmental management, and safety.

With an annual refining capacity of 300 tons of gold and 600 tons of silver, this facility is equipped with state-of-the-art technology advanced environmental infrastructure and safeguards that meet the most stringent regulatory standards.

MMTC-PAMP refines gold and silver through the electrolysis process to achieve the highest purity level. By constantly analysing and monitoring the condition of the electrolytic cells, the company has substantially reduced impurities and increased the overall efficiency of the refining process.

The result is Bullion Bars of 99.9%+ and minted gold and silver bars and coins of the purest quality at 99.99%+ purity level. Additionally, MMTC-PAMP's products come with a positive weight tolerance.

A highlight of MMTC-PAMP's innovations is our commitment to sustainability. The company has implemented a state-of-the-art environmental infrastructure that meets the most stringent regulatory standards. This includes advanced waste management systems and emission control technologies that minimise the environmental impact of refining operations.

Assay Laboratory Expertise

The company's assay laboratory is accredited under ISO 17025:2017, covering eight different assaying methods. It was the first to develop and validate a fire assay method for 999.9 gold. The laboratory employs advanced techniques including cupellation, spark OES spectrometers, ICP OES spectrometer, XRF spectrometer and potentiometric auto titrators.

Certifications and Accreditations

Certification/Standard	Scope	Key Details
LBMA – Good Delivery (Gold & Silver)	Ethical Sourcing & Purity of Precious Metal	Robust, fair, effective and transparency in precious metal
RJC – COP & COC	Responsible ethical, human rights, social and environmental Management	Responsible business practices and ethical sourcing throughout the supply chain
SA 8000	Social Accountability	Workplace standards and human rights
ISO 9001:2015 ISO 14001:2015 ISO 45001:2018	Quality, Environment and Health & Safety Management System	Improved quality, Environment and Health & Safety practices and set clear processes and standards requirements
BIS (As per IS 1417:2016)	Marking on Gold bar	Hallmarking system for gold bullion certifying the purity of the metal
ISO 50001:2018	Energy Management	Systematic approach to energy efficiency

Laboratory Quality Management System

Certification/Standard	Scope	Key Details
ISO 17025:2017	Assay Laboratory Accreditation (Covers 8 different assaying methods)	ISO 11426: 2021 - Cupellation method (fire assay) for the determination of gold in gold jewellery/alloys
		ISO 11427:2014 - Determination of silver in silver jewellery/alloys- Volumetric (potentiometric) method
		ISO 15093: 2020 - Jewellery and precious metals- Determination of high purity gold, platinum and palladium- Difference method using ICP-OES
		ISO 15096: 2020 - Jewellery and precious metals- Determination of high purity silver- Difference method using ICP-OES
		ISO 11427: 2014 - Volumetric method for the determination of silver in jewellery alloys
		MAC – 01 - Gravimetric procedure (Cupellation, fire assay method) for the determination of fine gold
		MAC – 02 - Determination of gold fineness & impurities by Spark Spectrometer
		MAC – 03 - Determination of Silver fineness & impurities by Spark Spectrometer

Sustainability Commitments

On the sustainability front, with the Science Based Targets initiative (SBTi), MMTC-PAMP is committed to setting near-term company-wide emission reductions. The refinery is utilising solar energy with its state-of-the-art monocrystalline solar panels providing an output capacity of 705Kwp, equivalent to nearly 30% of its power requirement. This will also assist in reducing greenhouse gas emissions (GHG) by 600+ tCO2 emissions per year. Furthermore, MMTC-PAMP is ISO 50001:2018 certified for Energy Management Systems.

Water conservation is a key focus of the company's environmental strategy. The facility recycles demineralised water, saving 83 KL per month, since November 2021, and reuses distillate water, saving an additional 70 KL monthly, since July 2021. Enhanced effluent treatment has saved 300 KL of water since May 2022.

Ethical Sourcing and Responsibility

MMTC-PAMP sources raw materials from recycled and mined supply chains across multiple countries. Maintaining transparency with our most valuable stakeholders, i.e., customers is of the utmost importance. Thus, we are invested in ensuring an ethical value chain of our offerings. The company complies with Responsible Gold Guidelines (RGG) and maintains LBMA accreditation, which ensures annual due diligence audits of its supply chain.

The London Bullion Market Association, more commonly known as LBMA, is the global authority for precious metals and maintains the highest standards for responsible sourcing. Our due diligence in the supply chain is annually audited by LBMA, ensuring MMTC-PAMP retains this accreditation and provides the best in

category precious metals products to customers. Lastly, as a member of the Responsible Jewellery Council, MMTC-PAMP holds the unique distinction of being Asia's first precious metals refinery to be certified under the SA 8000 social accountability standard. This certification demonstrates the company's commitment to workplace standards based on UN Human Rights Declarations and International Labour Organization conventions.

Social Commitment

The company actively supports local communities through various initiatives. These include educational support in the Mewat region, menstrual hygiene awareness camps, and providing critical support during the COVID-19 pandemic, such as supplying oxygen concentrators, ambulances, and medical kits. Driven by the need for sustainability and to enhance our economic opportunities, we are one of the few Indian players that adhere to SBTi's targets. Lastly, we are proud to support the rising future leaders of the country with our education and health initiatives.

