



सत्यमेव जयते

Ministry of Textiles  
Govt. of India



# METAL HANDICRAFTS SERVICE CENTRE





# **Metal Handicrafts Service Centre, Moradabad**

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## **Background**

Handicrafts of India are very significant to the country as they not only represent the culture & tradition but also have high utility and decorative value. Although, Handicraft sector is highly unorganised sector, it makes substantial contribution to Indian Economy and is major employment generator for the masses.

Moradabad is famous throughout world for metal handicrafts. To promote metal handicrafts, Metal Handicrafts Service Centre (MHSC), Moradabad was established with the sole purpose of the development of quality production Art Metal Wares which are exported outside India from Moradabad. MHSC was established by Government of India with financial and technical assistance of UNDP & Government of Uttar Pradesh.

Metal Handicrafts Service Centre is functioning under the administrative control of the Development Commissioner (Handicrafts), Ministry of Textiles, Government of India. MHSC has been registered as a Government of India Society under Societies Registration Act XXI, 1860. The Metal Handicrafts Service Centre (MHSC), Moradabad centrally located on NH24, 167 Kms from Delhi.





# Objective and Functions of MHSC

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## Objectives

- ◆ To bring about quality improvement in production of art metal wares and to enhance their export worthiness.
- ◆ To offer training facilities for up-gradation of skills of crafts persons and techniques engaged in the metal art wares industry.
- ◆ To offer services of Common Facility Centre (CFC) to exporters for finishing of the handicrafts products.
- ◆ To offer testing facilities as per international norms of quality aspects by NABL accredited testing lab.
- ◆ To provide continuous R & D in the field of metal finishing & allied activities of metal handicrafts industry.

## Spectacular Sections of MHSC

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- ◆ Metal Finishing Section
  - ◆ Skill Development Training through Indian Institute of Handicrafts Technology.
  - ◆ Research Testing and Calibration Laboratory [ NABL Accredited Laboratory as per ISO / IEC:17025:2017 : Cr. No.: TC-6683
  - ◆ Design Bank
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# **Metal Finishing Section [MFS]**

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The common facility centre has electroplating, powder coating, lacquering, polishing and sand/shot blasting section with mass production capacities. These facilities are available to exporter/ manufacturer on no profit no loss basis.

## **Electroplating**


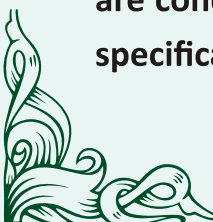
The modern electroplating plant existing in this centre is having tank with a capacity of 1,700lts. Due to large tanks, it is easily possible to electroplate heavy and big items up to 20-25 micron or even above if the need arises. At present, MHSC has the facilities of Copper Plating, Nickel Plating, Silver Plating, Tin Plating & Brass Plating.

## **Powder Coating**

In powder coating section, negatively charged powder is sprayed using electrostatic guns on different items, which are earthed. After coating the items with powder, it is baked at about 200°Celsius and the finish becomes supreme adhesive, hard, thermal resistant and durable for years. In this way the handicraft items made of cheaper ferrous metals and its alloys, coating with powder and enhancing product value are exported from this region for decorative and utility purpose.

## **Lacquering**

The process of lacquering is carried out in this centre in a dust free pressurized chamber where air is injected through micro filters thereby avoiding any chances of dust deposition with surface of the items. Electrostatic lacquering is adopted to achieve best wrap around effect and minimized wastage of lacquer. The lacquers using in the centre are high quality acrylic type and strict in process quality checks are conducted and the items are subjected to various test meeting international specifications.



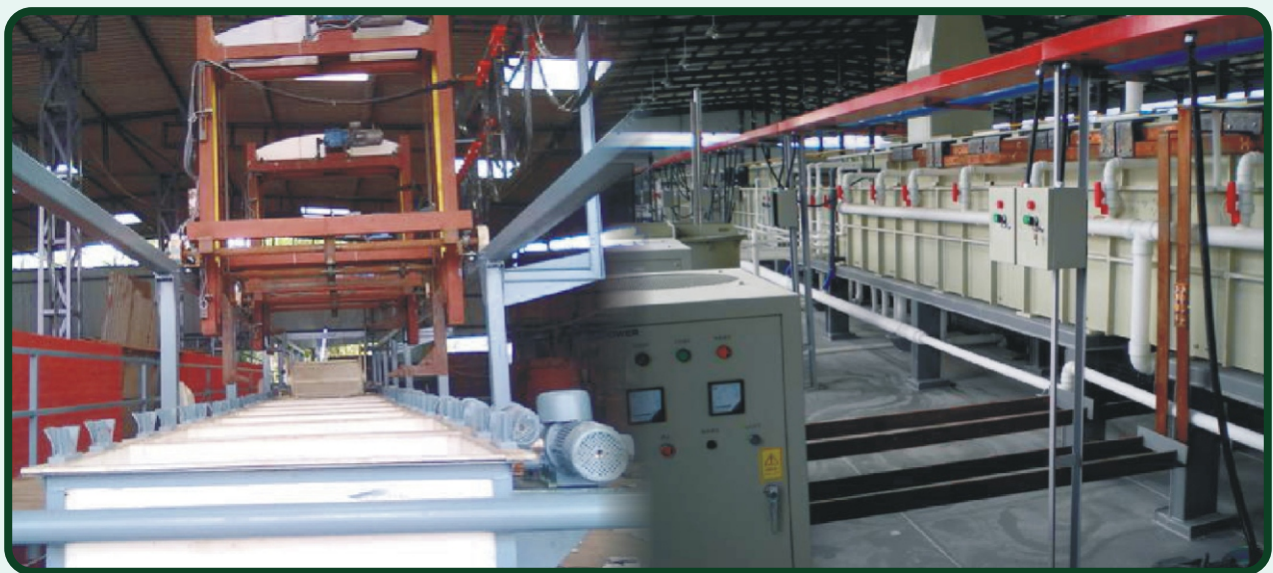


## **Sand/ Shot Blasting**

Polishing is an essential step before metal finishing while sand/ Shot blasting is used for making the metal surface granular and for cleaning intricate object, by pressurized spraying of sand or any other abrasive like aluminium oxide, glass beads, chilled iron shots etc. Blasted surface is very sensitive to atmosphere and applying a coat of lacquer or any other similar finishing can protect it.

## **Silicon Di Oxide Coating :**

The Plasma processing Group of IPR has developed a technique to deposit silicon dioxide films on brassware using the technique of plasma polymerizations of organic silicon monomers using radio frequency discharge plasma. The main advantage of Plasma Coating is that there is no any toxic metal observed in the surface coating.





# **Research Testing & Calibration Laboratory (RTCL)**

**NABL Accredited Lab. as per ISO / IEC:17025:2017 : Cr. No.: TC-6683**

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India is emerging as a Developed Nation because of Liberalization, Globalization and Competitiveness amongst other Countries. The Industry wants to perform its best and lead towards excellence. Industry requires producing its goods and services of highest quality with the minimum cost. Inspection/testing facilities are required to ascertain the level of quality.

In Moradabad alone, there are about 2500 Handicrafts Industrial units in large, medium, small sector. Testing facilities are required for the quality assurance of their products for three areas (Purchased material components, In-process material / Products and Finished Products).

MHSC has one of the leading Material Testing Laboratory in India in the field of Metal Handicrafts Products, Chemical, Non – Destructive, Toxic Metal Testing, Drop Test and Corrosion Resistance Testing etc. RTC Laboratory at MHSC, have acquired a great reputation for Quality and Implemented Quality Management System in line with the requirements of ISO / IEC 17025 : 2017 equipped with Contemporary Testing Equipments.

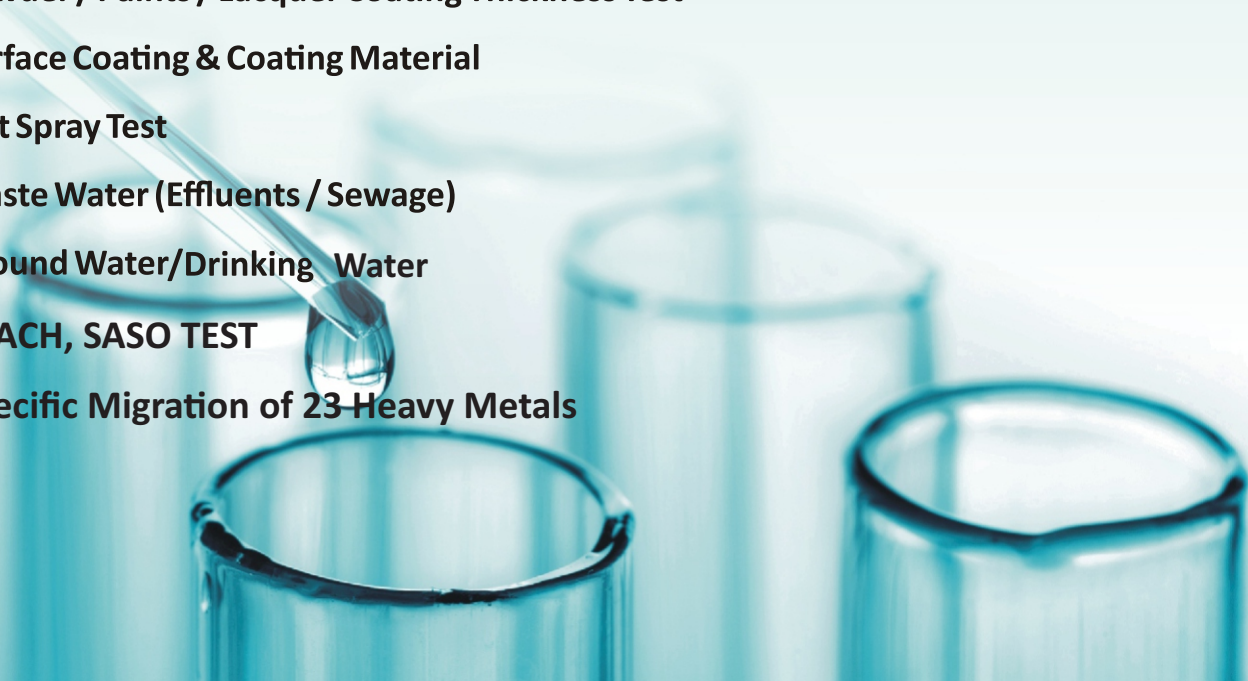




## Testing Services

The testing facilities are available at RTCL, MHSC for following material/product

- ◆ Carbon Steel / Stainless Steel / Tool Steel/ Copper/ Zinc / Aluminum & Its Alloys Based Handicrafts / Metal Products
- ◆ Precious Metal (Silver / Gold & Platinum) Elements in Metal & alloys
- ◆ Solid/ Liquid & Powder / Metal / Handicrafts Products by (X-Ray XDAL-XDV Spectrometer)
- ◆ Toys Testing Migration of Heavy Metals in Toys
- ◆ Lighting Lamp, Lighting Fixtures, Light Bulbs , Clocks (RoHS Directive)
- ◆ Small / Large Household Appliances Testing as per FDA/California Prop 65.
- ◆ Children Jewelry Products
- ◆ Metallic Coating Metallic Wares / Handicrafts Products
- ◆ Paint & enamels pigment & extenders polishes, Powder Coating, Solvent & Thinners
- ◆ Migration of Heavy Metals in Toys & Metal Handicrafts Products /Toys
- ◆ Powder / Paints / Lacquer Coating Thickness Test
- ◆ Surface Coating & Coating Material
- ◆ Salt Spray Test
- ◆ Waste Water (Effluents / Sewage)
- ◆ Ground Water/Drinking Water
- ◆ REACH, SASO TEST
- ◆ Specific Migration of 23 Heavy Metals





## **EXPERT ADVICE ON TEST REPORTS**



The RTC Laboratory provides the services for expert opinion / advice on test reports relating to conformance to the FDA Regulations, California Proposition, 65 , Heavy Metals in packaging ( EEC ) as per 94 / 62 / EEC & as per other International Directives , Leach able Lead & cadmium as per ISO / DIN EN / ASTM & BS Standards and ROHS as per the relevant standards.

## **CONSIGNMENT INSPECTION**

The RTC Laboratory provides the services for consignment inspection and the related testing of their handicraft products as per Buyers Protocols.

## **R & D FACILITIES**

The Laboratory undertakes any project sponsored by the industry for their Research and Development activities. Laboratory also work with close coordination with the Technology Resource Centre ( TRC ) and provide inputs to them relating to R&D projects such as various types of metallic and non metallic coatings, analysis of various Toxic & Non – Toxic elements in metals products and non metals. At present, MHSC establishing SiOx Coating with the help of FCIPT – IPR Gandhi Nagar under DST Project.





# Design Bank

The metal handicraft manufacturers of India are presently facing stiff competition from other countries such as China, Korea and Taiwan etc. since these countries are able to produce innovative designs as per international requirements.

Thousands of new designs are being developed throughout the country through the interventions of various organizations. MHSC also started design bank and training services in metal craft to artisans and developed innovative prototypes at various cluster of metal craft in the country like Moradabad, Aligarh, Hathras, Saharanpur, Varanasi and many other places. The basic purpose of design bank projects is to train artisans and develop innovative / marketable design using expertise of centre in metal craft. At handicraft clusters, different techniques were used as per the expertise of local artisans but new concepts were used to train them like at Sand and Dye Casting, Etching, Embossing etc. The Centre has the facility of Computer Aided Design (CAD), latest books for design guidance to new students, Soft copy of design, panel of designers and new design in metal handicrafts.





# TRAINING FACILITIES

MHSC is conducting training programme as per the demand of Metal Industry. MHSC is providing training in metal processing, quality control and inspection of finished products as per International guidelines / standards.

MHSC is also providing training to craft persons, artisans, to other who are normally matriculates and above. The training conducted at this centre is on metal finishing processes like lacquering, electroplating, powder coating, sand/ shot blasting and quality control. The training programme are also being conducted on in design development of prototypes, computer aided designing (CAD), sand casting, scraping, engraving, soldering, threading, etching etc. The duration of the training is two to three months depending upon the education qualification of trainees.

Most of the training programmes at MHSC are NSQF compliance. The details of such NSQF compliance are as under:

- ◆ Computer Aided Design
- ◆ Electroplating and Effluent Treatment
- ◆ Lacquering and Painting
- ◆ Basic Art of Engraving
- ◆ Packaging
- ◆ Powder Coating
- ◆ Quality Control
- ◆ Welding and Soldering





## **Details of training programmes organized in recent past .**

- ◆ Training in Metal Finishing to 25 children in the age group of 14 sponsored by Deputy Labour Commissioner, Moradabad.
- ◆ M/s NCDPD, New Delhi sponsored 25 trainees to have an intensive practical and theoretical training in Design, Prototype Development and Metal Finishing.
- ◆ Institute of Entrepreneurship Development, U. P. arranged a training program to 35 entrepreneurs in Metal Finishing and Quality Control.
- ◆ 20 artisans from Nadia, West Bengal visited and had the exposure to the activities of the center.
- ◆ 10 craftsmen were sponsored by Small Industries Service Institute, Bamunimaidan, Guwahati. The artisans had an intensive practical and theoretical training in powder coating, lacquering, electroplating, polishing etc.
- ◆ 10 trainees from Sri Lanka visited the Centre and nearby export units to have exposure in Metal Finishing processes in Moradabad.
- ◆ Conducted training for 5 technical employees of Royal Court Affairs, Government of Sultanate of Oman.
- ◆ Two batches of trainees from Nadia, West Bengal and Two batches of artisans from Birbhum got training sponsored by through the fund received from GM, DIC, Birbhum, West Bengal.
- ◆ Conducted training programme for 3000 trainees under ISDS programme of Ministry of Textiles, Government of India.
- ◆ 1200 Candidates / Artisans has been trained under ONE DISTRICT ONE PRODUCT [ODOP] Scheme of Government of Uttar Pradesh





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