



Process & Product Summary

Processes

Thin Metal Parts (TMP) manufactures high quality thin metal products to suit any specification, featuring electroforming, chemical-milling and laser-cutting processes. Mixing processes (hybrid manufacturing) enables TMP to broaden its overall product offering. TMP recommends the optimum process technology without bias – resulting in the highest quality and most cost-effective solution.

Full in-house capabilities include expert engineering support, CAD services, photo-tooling, state-of-the-art equipment, post-processing operations and automated inspection. TMP has been ISO 9001 certified since 1997.

Electroforming

Electroforming is an additive process in which nickel “plates-up” around a photolithographic pattern. A proprietary production process guarantees consistent surface finish and dimensional stability on both sides of the part. The electroforming process offers a combination of tight tolerances (up to +/- 2 microns) and feature sizes (as small as 15 microns) on thicknesses ranging from 0.0003” to 0.010”.

Thin, complicated parts that are tab and burr free can be manufactured with low-cost tooling, quick initial design time and cost-effective production. TMP is a world leader in the manufacturing of flat electroformed parts.

Chemical Etching

Chemical etching also uses TMP’s superior in-house photolithographic service in this subtractive milling process. TMP maintains a large inventory of metals in a variety of thicknesses, making chem-etch a quick-turn, cost-effective solution for a wide range of designs and applications. Chem-etching can be combined with electroforming and laser-cutting to produce highly complicated designs.

Laser-Cutting

State-of-the-art laser equipment allows Thin Metal Parts to achieve an outstanding combination of edge quality, tolerances and feature sizes with the largest selection of metals available. Specially designed for use with very thin metals, TMP’s lasers can create openings as small as 25 microns.

Photo-Tooling

Thin Metal Parts has full-service photo-tooling capabilities with the highest plotting resolution and accuracy available in the industry – at 50,800 dpi, 4 micron features with accuracy +/- .5 microns on Mylar film and glass masks. TMP offers CAD/CAM and data conversion services, and can produce images up to 28” x 32” – all with same day turnaround.

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Products

Custom Parts

TMP's three core processes (or a hybrid combination) offer design flexibility to develop a variety of custom manufactured solutions in a myriad of applications. Thin Metal Parts matches product specifications with the most cost-effective process to deliver high-quality parts. These quick-turn, low tooling cost processes also offer excellent production alternatives to traditional fabrication methods for metal parts in both high volumes and prototyping.

Additionally, TMP's photo-tooling capability offers direct Mylar services, die-cut Mylar parts and imaged glass products.

Sample products include:

- Metal encoders
- Mylar and glass encoders
- Electroformed mesh
- Glass calibration tools
- Lead frames
- RFI/EMI shields
- Analytical sieves
- Electronic components
- Printer components
- Microwave components
- Industrial/medical cutting tools
- Shadow/deposition masks