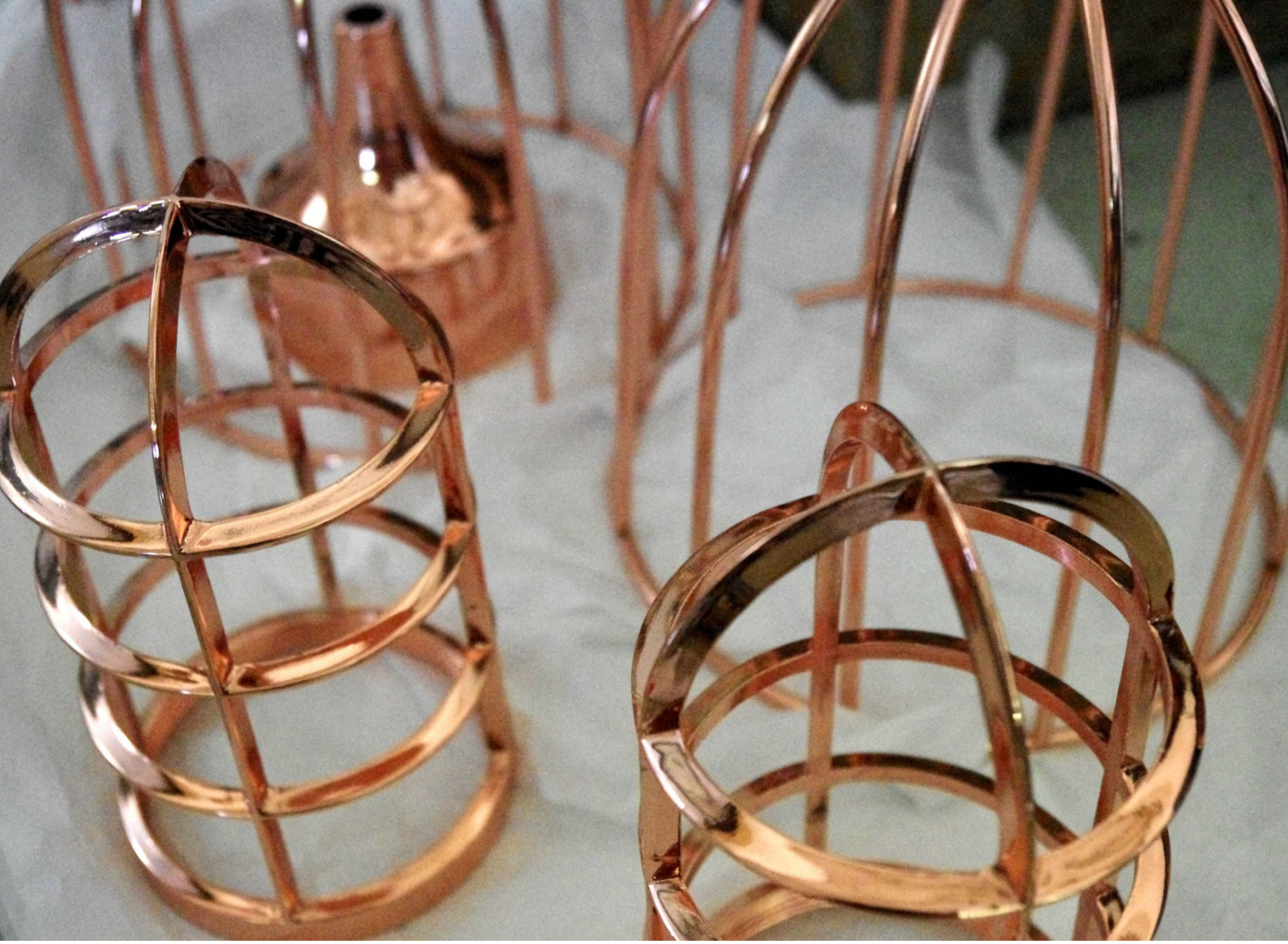
ASTOR METAL FINISHES

DESIGNING FOR **ELECTROPLATING**

astormetalfinishes.com sales@astormetalfinishes.com +61 2 9727 5622



DESIGNING FOR **ELECTROPLATING**

When designing components that are intended for electroplating, it's important to be aware of what's possible and realistic to be designed. The following has been laid out to give you an idea of the intricacies of plating. This will assist you with designing the parts that are to be electroplated, which in turn will improve production, affordability, final plating results and the achievement of your design intent.

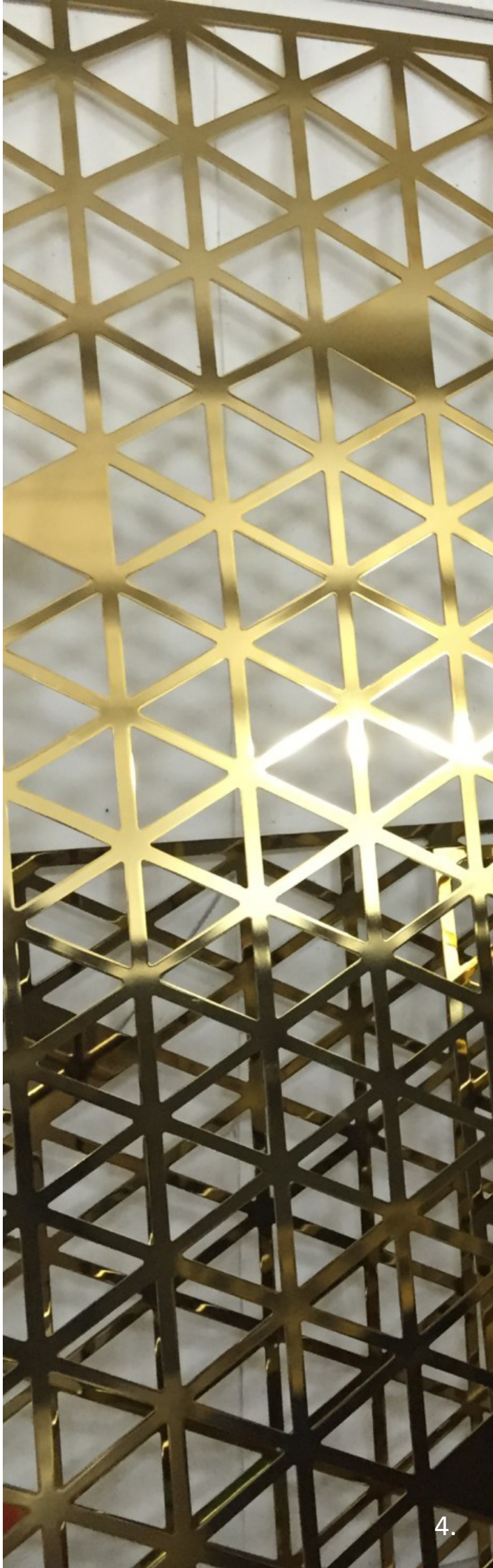
DESIGNING GENERAL SHAPES

Electroplating is the depositing of one finishing metal onto another base metal. Typically, the base metal is either stronger, lighter, more available or less expensive than the finishing metal.

The plating process relies on current flows. The technical properties of electroplating deposits **favour curved shapes and high points** — think tapware or tubular Corbusier and Breuer chairs.

Plating does not go into deep recesses or inside tubes, as these are deemed “low current”. This is especially the case with Chrome finishing, and it is the poorest performer when it comes to more intricate electroplating.

If sharp internal angles, connections, joins and recesses cannot be avoided, then it’s vital to design cover plates or sleeves to hide these corners. Alternately, these parts can be designed and fabricated as separate components, which can then be mechanically fixed after polishing and plating.

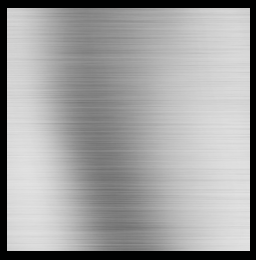


CONSIDER TANK CAPACITIES

Large folded panels or frames may have other limitations. Please check by sending a rough sketch to us.

BRASS:
2700H x 1000W x 450mmD
(580mm for nickel & chrome)

MILD STEEL:
2700H x 1000W x 450mmD
(580mm for nickel & chrome)
(2300L x 1000D for black oxide)



ALUMINIUM:
2700H x 950W x 450mmD

STAINLESS STEEL:
2600H x 950W x 450mmD

SELECTING THE IDEAL BASE METAL

Choosing an appropriate base metal all depends on your desired profile, detail, and application. We are able to work with your fabricators to make base metal recommendations and to clarify any confusion.

BASE METAL RECOMMENDATIONS

- **Aluminium:** Louvres, frames, panels, signage, castings, laser-cut screens, partition systems, furniture.
  Profiles: Angle, channel, tube.
- **Mild Steel:** Structural, perforated panels, furniture components.
  Profiles: Tube, flat bar.
- **Stainless steel:** Handrails, furniture, welded frames, shelving, panels, doorware, hardware, castings, panels, folded panels.

Below are more specific recommendations for base metals, based on components that we are commonly asked about:

- Large flat or folded panels that have been specified for:
  - Mirror finishes: We recommend BA or mirror stainless (min 1.2mm thickness)
  - Brushed or antique finishes: We recommend #4, linished or brushed stainless (min 1.2mm thickness)
  - Aged finishes: We recommend 2B stainless (min 1.2mm thickness)
- For joinery profiles, lighting or laser-cut signage, aluminium will likely be the best choice.
- Welded frames and handrails are usually stainless steel.
- For external items, generally stainless steel is recommended. See below section ‘designing for an outdoor or wet application area’ for more information.

For further advice and assistance, our project team is always available. We are open to reviewing images, photos and sketches to assist in design and fabrication — to help ensure your products or projects reach the best possible quality in the most efficient way possible.

DESIGNING FOR AN OUTDOOR OR WET AREA APPLICATION

Stainless steel is highly recommended for external applications, as it's best for withstanding wear and tear.
Mild steel and aluminium components that will be in wet or external areas require Duplex plating, as well as an assessment on profile and fabrication.

An example of a specification featuring Duplex plating for an outdoor component can be seen below:

Finish: Duplex nickel plating — 2 separate layers of nickel, semi-bright + bright nickel, 60-70microns thickness

Heavy brass plating: 0-15 microns

Aging process: chemical patina of brass

Oil: rubbed by hand to offer mild sealant, penetrative engine oil

Duplex Plating Capacities:
Aluminium: 2700L x 950D x 450mmW
Mild Steel: 2700L x 1000W x 500mmD

GET IN TOUCH WITH US

Let’s talk about how we can help you find
a beautiful, customised solution to fit your metal finishing needs.

If you’re ready to take the next step on your project, request a quote here.

Phone
+61 2 9727 5622

General Enquires
sales@astormetalfinishes.com

Project & Architectural Enquires
annabel@astormetalfinishes.com