Refractory metal heating elements.

Electrical current flows through the heating element and generates heat. This type of resistance heater is responsible for creating the high temperatures in the furnace. Our components made from molybdenum, tungsten, tantalum, niobium and their alloys are perfectly designed for this task.

Ribbon heater made of molybdenum-lanthanum
We supply heating elements for all types of high-temperature furnace in the form of ribbon, sheets, rods, twisted wire, wire bundles and wire mesh heaters.

Our materials belong to the group of refractory metals. Molybdenum and tungsten are the two materials that are most commonly used in high-temperature thermal processes. Thanks to their high melting points, they do not soften even at very high temperatures. Refractory metals have a lower coefficient of thermal expansion and better thermal conductivity than steel.

**The key advantages of our metals are:**

- Low vapor pressure
- Stability at high temperatures
- Low heat capacity
- Low thermal expansion
- High material strength
- Corrosion-resistant against aggressive chemicals

**Molybdenum-lanthanum (ML)**

Our materials are also suitable for use in protective gas atmospheres consisting of argon, helium, nitrogen and hydrogen.

By using suitable alloys and optimized production processes, we are able to improve the properties of molybdenum. To achieve a particularly high level of ductility and creep resistance, we dope pure molybdenum with small quantities of \( \text{La}_2\text{O}_3 \). The stabilized microstructure and modified recrystallization behavior prevent the premature embrittlement and fracture of our furnace components.

What makes ML better than pure molybdenum?

- Higher recrystallization temperature
- Elongated grain structure for higher ductility
- Greater creep resistance
We're here.

It makes no difference whether you need an entire hot zone or simply a spare part for your existing furnace. With Plansee, you are in good hands. We are happy to install your products for you at your premises. And, of course, we are there to lend a hand when it comes to inspecting, maintaining and optimizing existing furnaces.

A single source for all your needs.

We handle every stage in the manufacture of our products in-house. From the raw materials through to the finished product: including the development of new materials. In this way, we can guarantee that you benefit from the very best quality.
Raw material: sure and certain.

Ever since 1921, our customers have been able to rely on Plansee as an independent private company. Like us, they place great importance on reliability and continuity – especially when it comes to raw materials procurement. With Global Tungsten & Powders (GTP) and a holding in Molibdenos y Metales (Molymet), the Plansee-Group covers all the stages involved in the processing of tungsten and molybdenum – from powder manufacture through the subsequent powder metallurgy processes and on to the production of semifinished products and customer-specific components.

Why wait? Our ribbons, sheets, rods and wires manufactured from refractory metals are available for order online right now. Take a look: www.plansee.com/shop/