Pressed-sintered crucibles.

During sapphire production, Al₂O₃ - the compound that is to become the future single crystal - is melted in molybdenum and tungsten crucibles. It is in the Kyropoulos process that our pressed-sintered crucibles show their strengths to best effect. They are repeatedly heated to more than 2000 °C (3632 °F) and then cooled down again.

With our many years of experience in the field of powder metallurgy, we produce crucibles of a particularly high density and purity. By correctly filling the mold used for the crucible and carefully controlling the temperature distribution during sintering, we achieve uniform wall and base thicknesses - an important prerequisite in achieving the high level of creep resistance that characterizes our crucibles.

We supply pressed-sintered crucibles with a diameter of up to 40" and a height of up to 35" and we are prepared to produce even larger ingots in the future.
Save production costs! With our ultra-smooth tungsten crucibles.

If the surface of the crucible is too rough, the sapphire cannot be released or can only be partially released from the wall of the crucible, which results in cracks and faults in the crystal. Not only that: The crucible itself is also damaged in the process and has to be reworked or replaced earlier than planned.

Our pressed-sintered crucibles made of tungsten have a surface roughness of less than 0.8 µm. The sapphire can be extracted from the crucible without difficulty and without damaging the surface of the crucible. For the sapphire producers, this results in less complex and expensive reworking of the surface of the crucible. The cycles run smoothly and deliver high-quality ingots. And there's another advantage: The smooth surface is less susceptible to corrosion caused by the aggressive melted sapphire. This increases the service life of the reusable tungsten crucibles.

Do you use molybdenum melting crucibles? We are glad to deliver these crucibles with ultra-smooth surface too. Talk to us!
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.

Products for high-temperature processes

Whether for annealing and soldering processes, coating systems, MIM furnaces, sintering furnaces, HIP processes or for growing single crystals: Whenever things get hot, we’re here for you with our molybdenum, tungsten, tantalum and niobium.

Find out more about our intrepid products for your systems:

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/