

DUNLEE'S CO-DEVELOPMENT OF 3D-PRINTED TUNGSTEN PARTS HELPS CUSTOMERS SUCCEED



Team of industry experts to consult and partner with you on your projects

More than just a components manufacturer, Dunlee is a co-developer that works with you from component ideation through volume production. Powder bed laser melting technology provides freedom in design and allows us to build highly complex, pure tungsten parts on an industrial scale.

Companies interested in outsourcing the manufacturing of parts are often faced with a dilemma: internal resources are knowledgeable about requirements and eventual use, but often do not have the expertise in specialized production techniques nor knowledge of what specifications are possible. In contrast, external companies may be experts in parts production, but lack knowledge about how the part will be used in the final product.

Dunlee, a leading manufacturer of 3D-printed tungsten parts, understands that successful component production requires a co-development partnership that combines the expertise of both companies. As your partner, we believe that our job isn't just to manufacture to your specifications, but to create with the end in mind so that parts perform precisely as you envision. We use a team-based approach to co-develop parts with our customers, working together from conceptualization through mass production. This approach allows us to help you efficiently move your business forward and prepare for future trends and requirements.

Is tungsten right for you?

Tungsten parts have characteristics that make them ideas for a variety of applications.

- Geometrical complex shapes are possible
- Multiple parts can be combined
- Suitable for high temperature applications (melting point: 3,422 °C)
- Positional accuracy down to 25µm
- Small details down to 100µm
- Low-cost prototyping
- Easy-to-implement modifications
- Can optimize weight

Dunlee: your trusted partner

Dunlee is committed to collaborating with you from ideation through production. From the beginning, we gather experts from both sides to identify requirements now and in the future. A non-disclosure agreement assures you that we will maintain strict confidentiality and allows us to explore your needs in depth.

Next, we optimize your designs so components are suited to your needs. We can scale up to mass-produce parts to meet current and future demands, and our vigorous quality control processes deliver consistency and ensure adherence to specifications.

TUNGSTEN: FIRST CHOICE FOR DIVERSE APPLICATIONS



COLLIMATION SOLUTIONS AND BEAM SHAPING

Due to its excellent ionizing radiation absorption characteristics, pure tungsten is the preferred metal for collimation and beam shaping solutions in the medical and nuclear energy industries.



NON-MAGNETIC PARTS

Pure tungsten is a non-magnetic metal and used in medical MRI (magnetic resonance imaging) and the leisure industries.



BALANCE WEIGHTS

Thanks to its density and weight, pure tungsten is often used as a balance weight in, for example, the aerospace, defense, leisure, optical and automotive industries.

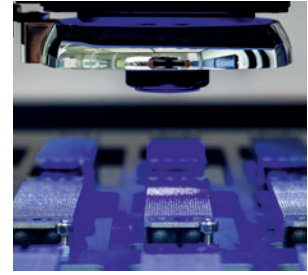


THERMAL AND RADIATION SHIELDING SOLUTIONS

Pure tungsten has a high melting point and is therefore often used for thermal or radiation shielding in the medical and nuclear energy industries.



The factory in Best, geared for mass production of high-precision 3D-printed tungsten parts



Stringent quality control even during mass production

Working with pure tungsten can be a challenge; it is very complex and its high melting point makes it difficult to print using additive manufacturing on an industrial scale. We use a powder bed laser melting additive manufacturing process that melts and fuses tungsten particles together to create parts. We are ISO 13485 quality certified for development and production, and process every pure tungsten component under controlled conditions and in strict accordance with medical standards.

Our years of experience and attention to detail enable us to mass-produce complex customized components with details as small as 100µm and positional accuracy of down to 25µm. We also offer advanced post-processing methods, including electrical discharge machining and wet chemical etching, to make sure the dimensions and tolerances of the 3D-printed tungsten parts are within specification



Contact us at marketing.dunlee@philips.com to start the co-development process by discussing your specific needs with one of our experts.

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