Dunlee, the pioneer of pure tungsten 3D printing further expands capacity due to increased order intake and rising interest in printed refractory metals.

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Dunlee, a Philips brand, has been developing and manufacturing pure 3D-printed tungsten parts for more than ten years. In fact, Dunlee is the only manufacturer to produce pure 3D-printed tungsten parts with a wall thickness of 100 micron, which is even thinner than an eggshell. Following increased interest in tungsten, which is the perfect choice for demanding applications such as shielding against high temperatures and radiation, an investment into five new highly specialized machines has been completed. This is a clear commitment to growing and establishing the Dunlee 3D printing service as the leading provider of 3D-printed tungsten parts.
Continuous business growth requires more machine capacity
The ongoing growth is based on two positive developments.
Firstly, more and more medical customers that manufacture
CT systems have finalized the design-in phase and are starting
to release the printed tungsten parts to volume production.
They are ramping up their orders to high volumes (thousands
per year), which makes Dunlee the only provider of printed
tungsten capable of providing the required high volumes
in repeatable quality. Secondly, 3D printing overcomes the
old barriers of design and processing limitations of tungsten
that restricted the use of this metal. Customers coming from
diverse industrial applications are just starting to understand
the benefits of this new technology, “We are at the outset of
developing new applications but are already seeing great
interest from companies with very challenging requirements.
Promising activities are already underway and we are
constantly working to improve and expand our manufacturing
capabilities,” explains Peter Hoogerhuis, Head of Operations.

Highly customized machine park with a capacity of many
thousands of tungsten parts per year
Due to the hardness and the high melting point of tungsten,
Dunlee requires very special, customized 3D printers.
Right from the start, Dunlee has been working in a very
close technical cooperation with our 3D printing supplier,
a leading provider of direct laser metal sintering machines
and purchased five new specially fabricated printers. In
total, the facility now counts eleven 3D metal printers based
on the DMLS technology, which makes Dunlee the leading
provider of 3D-printed tungsten parts in fine detailed
resolution. Dunlee is also making further investments into
special testing equipment that allows faster tests and thus
faster development of new process capabilities (e.g. rapid
prototyping of new tungsten part designs).

Specialized and experienced partner for demanding
applications
Being part of Philips, a leading health technology company,
Dunlee exactly knows and understand the very demanding
requirements of medical customers. This knowledge, together
with our long experience of processing pure tungsten, makes
Dunlee the ideal partner for demanding parts in extreme
applications. One of the biggest challenges in ramping up 3D
printing capacity is to achieve a consistently high level of
quality. Repeatability of design and quality is crucial when
producing the same part in high volumes, especially in fine-
detailed resolution. This reproducibility is not only of great
importance for medical companies but is, of course, also very
beneficial for every customer that is looking for highest quality
for this special tungsten manufacturing process. We at Dunlee
are proud to provide exactly the repeatable quality needed.