

1. Beryllium is a lightweight metal, which has very interesting and unusual properties. This makes this material very suitable for specific applications in high-value sectors such as aerospace, military or nuclear industries.
2. However beryllium dust produced in its machining is toxic and can cause Berylliosis, a chronic lung disease caused by exposure to beryllium. Berylliosis is an occupational disease and has no cure.
3. Leading Group is a Spanish integrator of mechanic and mechatronics solutions (precision machining, welding, brazing, assembly, etc.) with 50 years of experience in strategic sectors.
4. Special Materials Machining (SMM) is our subsidiary dedicated exclusively to beryllium manufacturing and we have one of the most modern beryllium workshops in the world, with great machining capabilities under extraordinary safety conditions.
5. We have been working for Large Scientific Facilities for more than 10 years. Among our clients are ITER/ F4E, CERN, ESS Lund (Switzerland), Rutherford Appleton Laboratory (STFC-UK), etc.

- Beryllium's properties: lightweight, high melting point, good thermal conductivity, high heat capacity, dimensional stability, low inertia, X-ray transparency.
- Material for specific applications in high-value sectors such as aerospace, military or nuclear industries.

Typical applications for Big Science Industry:

- Beryllium reflector for nuclear reactors
- Neutron sources
- Heat shields (Be tiles for the FWP-ITER)
- Optics & photonics instrumentation

New approaches are:

- Medical and analytical x-ray source tubes
- Optical/laser mirrors
- Instrumentation for neutron sources.
- Inertial navigation systems
- Satellite structures



Strengths

- Material properties itself.
- Leading has one of the most modern beryllium workshops in the world.
- Leading is developing new expertise in beryllium extreme mechanical solutions.

Weaknesses

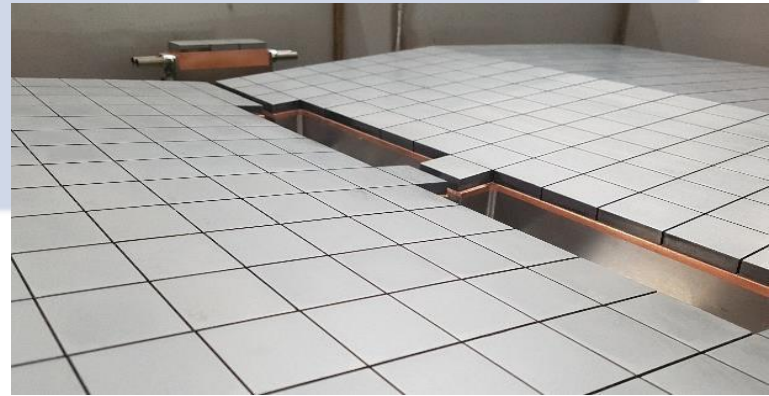
- Raw material price.
- Be must be machined in a high-performance workshop.

Opportunities

- Technology transfer to other sectors / products.

Threats

- Substitute metals/ materials.



- Leading Group can supply this Beryllium Machining technology as a service for other organizations/ companies.
- High precision machining. Our milling machine is a six-axis machine and allows us to access more complex geometries.
- Our capabilities allow us to integrate beryllium components into more complex turnkey mechatronic systems.

- For further information:

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