



wiretech

Why Choose WireTech?

Our technology and material experts have

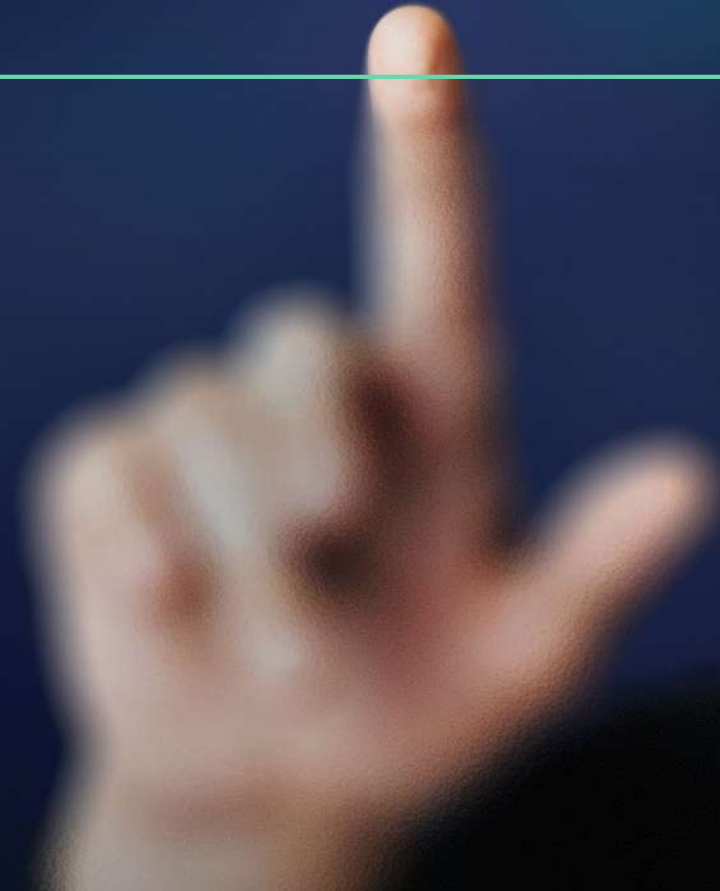
40 years of experience

working in a multinational environment and processing tungsten for numerous application fields, such as medical, electronics, welding to automotive. There is no limitation when it comes to tungsten wire, we can fine tune properties according to **any application field**.

We tailor our **production according to the bespoke requirements** of each of our partners in order to suit their processes and design. From taking the first steps to selecting the ideal grade, we support our international partners' daily operations.

We support customer NPIs (new product introduction) utilizing our expertise, development support, and material know-how from the early design stages.

We manufacture with **uncompromising quality** and **high capacity**, guaranteed by our decades-long experience and in-house developed processes in the heart of the EU.



Our wire production capabilities meet the **highest industry standards**, including FDA requirements.

From incoming quality check, through database controlled production process to packaging, we ensure **full traceability** throughout the production with online process monitoring.

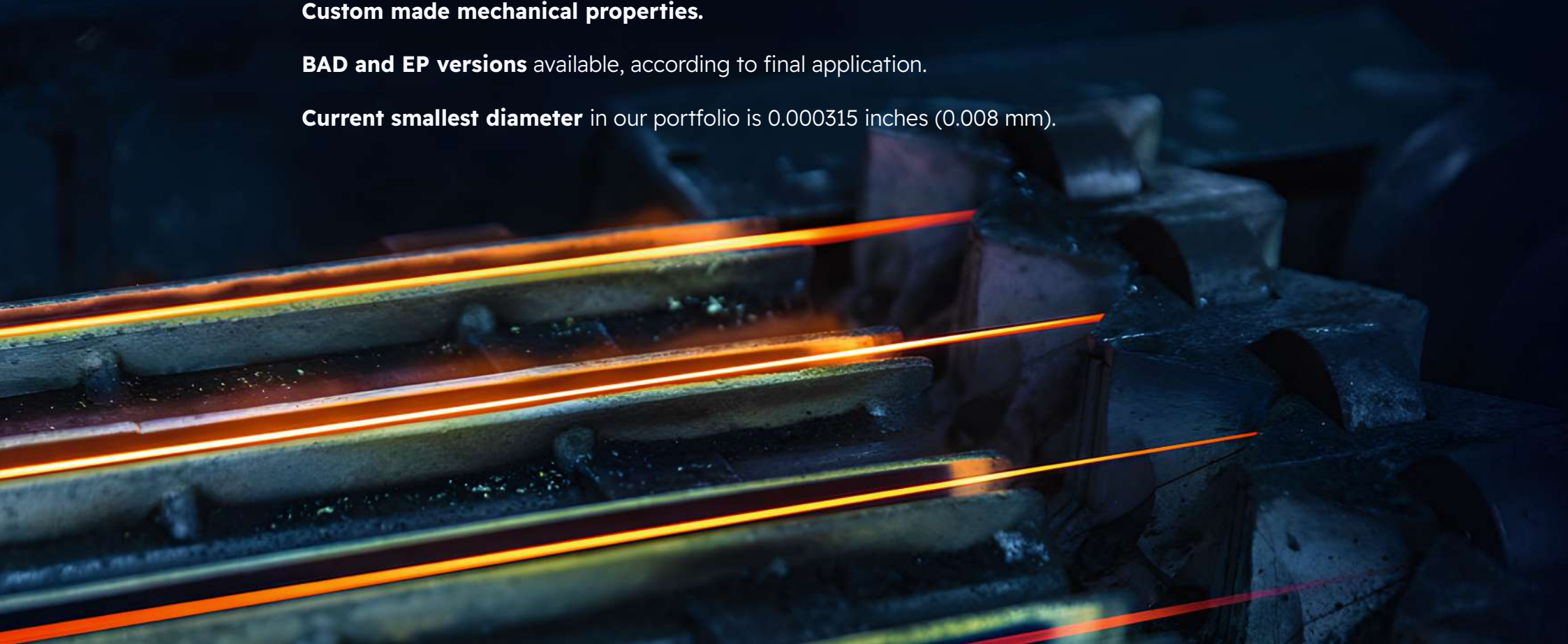
Why Choose Our Tungsten Wire?

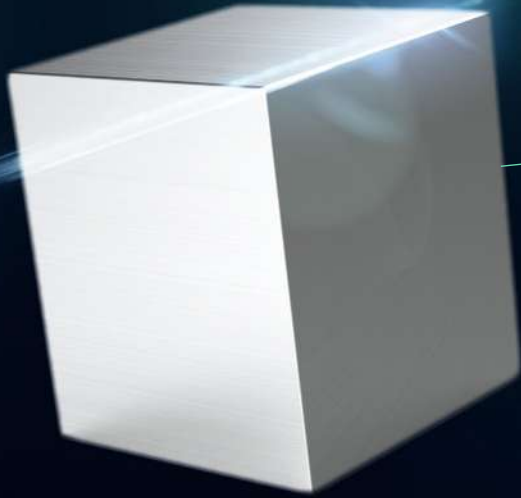
Bespoke mechanical properties and finishes (black as drawn or polished clean tungsten wire) are available according to your requirements.

Custom made mechanical properties.

BAD and EP versions available, according to final application.

Current smallest diameter in our portfolio is 0.000315 inches (0.008 mm).





Why Choose Tungsten?

Tungsten has the **highest melting** point among metals at 3370°C (6100°F).

Tungsten has the **highest tensile strength** amongst non-alloyed metals at 2965 MPa (430000 psi)*.

Tungsten has the **lowest thermal expansion** coefficient amongst metals at 4.5 ($\mu\text{m}/\text{m}^\circ\text{K}$).

WireTech's Performance in the Medical Sector

The healthcare sector is typically one of the industries where very strict quality standards must be met. The WireTech-team's track record and tradition in developing professional processes make us outstandingly suitable for adapting these standards. Thanks to our distinguished quality culture, we possess the knowledge required for production, in terms of technology, administration and documentation alike, which led to the implementation of scores of successful projects in the recent past.

WireTech has in-house professional engineering knowledge based on 6 sigma methodologies and extensive manufacturing capabilities, which ensure that we are positioned as one of the most competitive and flexible players in the market in various medical technology manufacturing projects.



Surgical Robots

Chemical and mechanical stability are the key performance metrics in the instruments used in surgical robotics. Custom mechanical properties and finishes result in extended validations and FDA approvals which is a must in the area.

We manufacture tungsten wire with a special composition and customized tensile strength for our partners. Our company is a validated component supplier. Our tungsten wire's special surface design and composition is resistant to high mechanical and chemical stress, utilized mainly in surgical robots. We design our products in line with customer needs with different diameters, along the given mechanical parameters and according to the predefined surface finish.

Our partners can rely on our experience and expertise in product development as we consult with both the end user and our direct customers when introducing new products.

Electrosurgery

The success of our services lies in the fact that WireTech fully adapts to emerging customer needs starting from R&D, offering unique and customizable solutions, and is flexible in terms of technological development.

With the involvement at the early stage of the NPI we are supporting developments from tungsten perspective finding solutions for the design issues and also defining material parameters for the application. We test multiple iterations before defining final products.



Laparoscopy

Laparoscopy has revolutionized minimally invasive surgery. Our tungsten wire empowers laparoscopic instruments with unrivaled precision and reliability. Surgeons can trust in our expertise to develop wire optimized for laparoscopic procedures, enabling better patient outcomes.

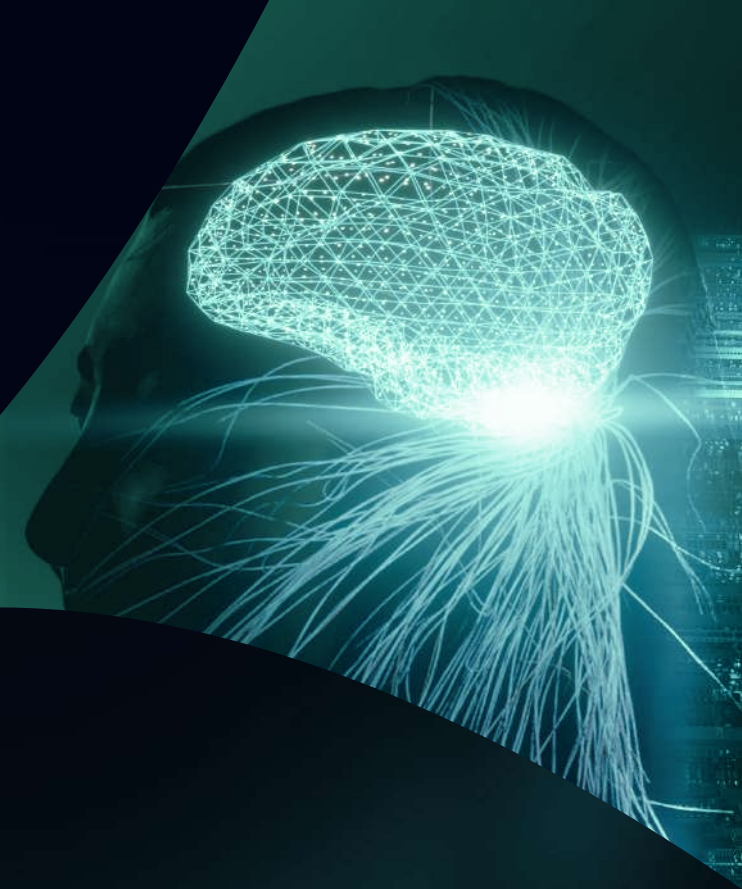


Orthodontics

The introduction of tungsten particularly for dental braces, signifies a breakthrough in dental technology. Tungsten revolutionizes orthodontic treatments by combining improved durability, customization, and patient comfort, and aesthetic innovations, promising a more effective and appealing solution for dental braces.

Neural Probes and Electrodes

Tungsten's biocompatibility and resistance to wear and chemicals prolong device life, crucial for long-term studies and treatments like epilepsy. Its excellent conductivity allows for accurate neural signal detection with minimal interference, while its safety for implantation is confirmed by FDA approvals. Its strength enables thinner, less invasive electrodes, improving patient comfort and research precision.



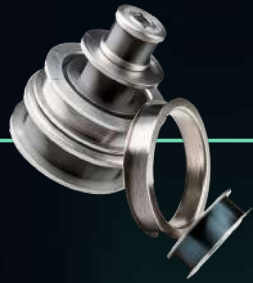


**Tungsten wire
applications extended
to your needs**



Welding

Use of tungsten electrodes during various welding processes produces smooth and slag free welding seam. We produce tungsten wires/pins for EDM and TIG welding according to customer defined dimensions and surface quality.



Surface Treatment

Tungsten wires are used as heaters for vacuum metalizing technologies like PVD, mainly applied for vacuum coating, creating thin films for products like Christmas baubles, reflection caps, or special machine parts. Tungsten with high melting point, high resistance, good intensity and low evaporation pressure, highly suitable to evaporate the metallic films and create shiny film on substrate surfaces.

Automotive - Windshield Heating

Excellent use as a component for vehicle's heated windshields. Special coating: the tungsten wire layered in the glass of vehicles is barely noticeable, has a stable resistance, maintains its diameter, leaves no marks during installation, and does not distract the eye while driving. Windshields equipped with such systems are energy efficient. Tungsten wire as fine as 20-35 micron is being manufactured in Hajdúböszörmény, Hungary.



Aerospace and Aviation

Tungsten wire heating elements are key in aerospace for de-icing, efficiently converting electricity to heat, and ensuring the functionality of critical aircraft components in extreme conditions. Integrated with broader de-icing technologies, they enhance aircraft safety and performance in cold weather.



Additional fields of applications

A wireframe model of a car, glowing with blue light, set against a dark background with a grid pattern.

Lighting

Excellent for filament components for light bulbs for traditional, CMH, and horticulture lamps. High-quality standards are met, using knowledge gathered from automotive products and customers.

A close-up view of a screen printing machine, showing the squeegee and the ink tray, with a greenish tint.

Screen printing

Tungsten enables finer meshes for detailed, high-resolution prints across various substrates, including fabrics and semiconductors. Its corrosion resistance is ideal for aggressive inks, extending mesh lifespan and reducing maintenance. Adopting tungsten wire in screen printing boosts process efficiency, quality, and cost savings, catering to advanced printing demands.



Thermal applications

Excellent raw material for thermocouples (“G” type thermocouple wire) with stable measurement performance over 2000°C.



Defense

As a surface coating, tungsten wire is used in antennas and deployable mesh reflectors for communication satellites.



Fishing

High-quality tungsten wires are utilized in sports, too. In the case of fishing, spinning tackles or tungsten leaders are reliable protectors against the sharp teeth of predator species.



Music

Special strings can also be created with tungsten cores. In this field, our stable quality in mechanics will support the perfect sound.



Laboratory supplies

Researchers frequently use tungsten wires in high-temperature and chemically harsh environments. From our portfolio, we can serve this area too.



Microstructural Analysis

The tungsten filament cathode is an excellent source of electrons. In Scanning Electron Microscopy the most common material used for filaments is tungsten as it ensures the exit of electrons required for analyzing surfaces.



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ISO 9001 ISO 14001 ISO 45001