

RUBIS TWEEZERS: Material and innovative coatings

The choice of tweezers depends on the specific needs of the application and the environment in which they will be used. Careful consideration of the characteristics of each type of tweezers will help ensure effective and safe handling of objects, significant time savings, and reduced damage and waste.

SA – STAINLESS-STEEL TWEEZERS:

Surgical stainless-steel, anti-acid and anti-magnetic. This is the material most used for the manufacture of high-precision general-purpose Tweezers.

Advantages:

- Cost-quality ratio and durability: Products professionally manufactured from high quality surgical stainless-steel last for several years and are therefore ultimately cheaper than those made from low-quality materials.
- Excellent corrosion resistance, making them suitable for a wide range of applications.
- Feeling of greater control and stability during use.

All these features make the stainless-steel tweezers the preferred solution for various general applications such as electronics, semiconductors, medical or laboratory and component positioning settings.

DURAX™ – MARTENSITIC STAINLESS-STEEL TWEEZERS:

DURAX martensitic stainless-steel is a nickel-free alloy steel. Hardened up to 54 HRC Rockwell by heat treatment, making it harder, stronger and way more durable than other tweezers. By increasing the hardness, it is possible to realize a high degree of sharpness in the tips. Have excellent corrosion resistance but have a slight reaction to magnets.

Advantages:

- Precision: DURAX tweezers have extra fine tips and a robust construction, allowing for extremely precise handling but also higher than normal finger working pressure when needed.
- Superior control: Ideal for microengineering, watchmaking and other areas where a high level of precision and control is required.

They are suitable for situations where very accurate control over small objects and high precision is essential, such as in microengineering, aerospace, biomedical, or watchmaking.

CARBON STEEL TWEEZERS:

CARBON steel, due to its high carbon content and 62 HRC Rockwell hardening, gives CUTTING TWEEZER blades greater edge retention and increases tool life but have a slight reaction to magnets. In humid and corrosive environments, it is recommended to treat or coat the surface to prevent its oxidation. Epoxy coating is the best solution.

All these features make our CARBON STEEL CUTTING TWEEZERS an excellent solution for all cutting applications in electronics, semiconductor, and medical or laboratory applications.

AXAL™ – SUPERALLOY TWEEZERS:

AXAL - Cobalt-chrome superalloy, suitable for clean rooms, gives these tweezers the best performance ever reached on the market. High temperature and acid resistance, 100% antimagnetic, increased hardness (34 HRC Rockwell) and excellent flexibility make these tweezers the best option for the most demanding applications in every environment and market segment.

Advantages:

- Precision: AXAL tweezers have extra fine tips and a robust construction, allowing for extremely precise handling but also higher than normal finger working pressure when needed.
- Superior control: Ideal for microengineering, watchmaking and other areas where a high level of precision and control is required.
- High resistance to temperature up to 500°C, good fatigue and tensile strength guarantee durability and make them practically wear proof providing a considerably longer service life.

They are suitable for situations where very accurate control over small objects and high precision is essential, such as in microengineering, aerospace, biomedical, or watchmaking.

TITANIUM TWEEZERS:

Hi-tech Titanium Tweezers are designed for the best performance in the most demanding environments and applications, such as human prostheses, when weight is a decisive factor for the user.

Advantages:

- Ultralightweight for extreme performances and comfort.
- High temperature stability up to 885°C without capillarity at soldering, requiring regular cleaning.
- 100% antimagnetic and 100% acid resistant.
- Excellent corrosion resistance in many environments, including seawater, acids and weak bases.
- Precision: Titanium tweezers have extra fine tips and a robust construction, allowing for extremely precise handling but also higher than normal finger working pressure when needed.

They are suitable for situations where ease handling and control of small objects is essential due to their light weight and high precision, such as in microengineering, aerospace, biomedical, or watchmaking.

ALUMINIUM TWEEZERS:

Hi-tech Aluminium Tweezers are designed for the best performance in the most demanding environments and applications when weight and sustainability are a decisive factor for the user.

Advantages:

- Ultralightweight for extreme performances and comfort, for prolonged periods without hand fatigue.
- Aluminium is resistant to corrosion, especially when anodized. This makes aluminium tweezers ideal for wet environments or for use with corrosive materials.
- Aluminium has a high thermal conductivity, which means that it can heat up quickly if used near heat sources. This could be an advantage or disadvantage depending on the application.
- Aluminium reduces the risk of scratching or damaging delicate materials.
- Are cheaper and therefore an economical choice for many applications.
- Aluminium recycling process is easier, even more sustainable as particularly energy efficient and, simpler to implement in each country.

Suitable for handling delicate or sensitive objects, or in medical applications where weight and price are key factors.

FULL PLASTIC TWEEZERS:

Made entirely of plastic – PBT, these tweezers are the most precise tweezers to be found on the market. Ideal for environments where metal contamination or corrosion must be avoided.

Advantages:

- Chemical resistance: Plastic does not react with many chemicals, suitable for handling sensitive substances.
- Avoids corrosion: In corrosive environments, plastic tweezers prevent damages caused by corrosion.
- Avoid scratches, antimagnetic, anti-acid, resistant up to 210°C and mechanical stress.
- Are cheaper and therefore an economical choice for many applications.

Suitable for general applications where handling of delicate or sensitive objects is required and where weight and price are key factors.

FULL PLASTIC TWEEZERS – ESD SAFE:

Made entirely of plastic - VESTAMID® with fiberglass, these tweezers are the most precise that can be found on the market. Ideal for environments where metal contamination or corrosion must be avoided and for protection from static electrical discharge.

Advantages:

- Electronic protection: Essential in environments where ESD can damage sensitive components.
- Operator safety: Reduces the risk of damage from electric shock when handling electronic components.
- Chemical resistance: Plastic does not react with many chemicals, suitable for handling sensitive substances.
- Avoid scratches, antimagnetic, anti-acid, resistant up to 180°C and mechanical stress.
- Are cheaper and therefore an economical choice for many applications.

Suitable for industries such as electronics, where protection against ESD is critical to prevent damage to electronic components. Also suitable for general applications where handling of delicate or sensitive objects is required and where weight and price are key factors.

HIGH TECH POLYMERS TIPS – PEEK – ESD SAFE:

Our Replaceable Tips of Hi-tech PEEK – with fiberglass, are designed for the best performance in the most demanding environments and applications when metals are not an option.

Advantages:

- Electronic protection: Essential in electronic environments where ESD can damage sensitive components.
- Operator safety: Reduces the risk of damage from electric shock when handling electronic components.
- Avoid scratches, antimagnetic, anti-acid, resistant up to 280°C and mechanical stress.

Suitable for industries such as electronics, where protection against ESD is critical to prevent damage to electronic components. Also suitable for general applications where the handling of delicate or sensitive objects is required.

DIAMOND TIPS TWEEZERS:

Thanks to the diamond-coated tips, our Diamond Tip Tweezers offer maximum grip and precision, making them the ultimate tool for situations where precise control for small objects and high precision is essential, such as in precision engineering, aerospace, biomedical or watchmaking. The coating of “Diamond Tips” is an electrodeposition process. Electrodeposition involves coating steel with diamond particles immersed in an electrolyte solution. An electric field is applied to deposit the diamond particles on the surface of the steel, creating a uniform coating.

BIO-MED LINE TWEEZERS:

Made from the best DURAX or AXAL, these tweezers reach extreme precision on the tips and grant high visibility even under high magnification rates. Our alloy allows these tweezers to have very hard yet elastic tips, it can withstand very high temperatures and has excellent resistance to acids.

Advantages:

- Precision: BIO-MED LINE tweezers have extra fine tips and a robust construction, allowing for extremely precise handling but also higher than normal finger working pressure when needed
- The optional serration on the handles (MED) ensures a better grip and ventilates fingertips preventing excessive sweating.

They are suitable for situations where very accurate control over small objects and high precision is essential, such as in microengineering, aerospace, biomedical, laboratory, component positioning or watchmaking

CUSHION FOAM HANDLE LINE TWEEZERS – ESD SAFE:



The revolutionary, streamlined, ergonomic and functional Rubis-Design ensures the operators maximum handling and comfort with an additional velvety soft touch. TPV cushion foam has been developed with high-tech materials to provide heat insulating, effortless handling, extended durability and ESD safe material (10^7 Ohm).

Advantages:

- The secure, non-slip grip reduces the effort required to hold the tweezers in place and improves the overall comfort and handling, preventing hand fatigue and helping operators to perform consistently well.
- Prevents Carpal Tunnel Syndrome and therefore reduces workplace absences.

Highly appreciated by operators and suitable for industries such as electronics, microtechnology or component positioning, particularly recommended for cleanrooms and other controlled environments.

EPOXY-COATED TWEEZERS – ESD SAFE:



New Epoxy coating is applied on Anti-acid/Antimagnetic stainless steel bringing many advantages: ESD safe, enhanced grip, resistant to oxidation, extended tool life and protection from scratches.

Advantages:

- Electronic protection: Essential in electronic environments where ESD can damage sensitive components.
- Hygiene and ease of cleaning: smooth, non-porous surfaces make it easy to clean the tweezers helping to keep them hygienic, suitable for medical or laboratory applications.
- Chemical Resistance: Epoxy is generally resistant to a wide range of chemicals. As a result, epoxy-treated tweezers can be used in chemically aggressive environments without suffering damage or corrosion.

All these features make the epoxy coated tweezers an excellent solution for many applications in electronics, semiconductors, and component positioning settings, suitable for medical or laboratory applications.

GRIP-COATED TWEEZERS – ANTI-SLIP:

The special soft coating ensures a secure and stable grip when handling objects or assembling components.

Advantages:

- The anti-slip feature ensures a stable grip, which is useful in situations where precision is critical.
- The secure, non-slip grip reduces the effort required to hold the tweezers in place and improves the overall comfort and handling of the tweezers, preventing hand fatigue and helping operators to perform consistently well. Highly appreciated by operators.

Suitable for industries such as electronics, microtechnology or precision assembly.

TEFLON-COATED TWEEZERS – ANTI SCRATCH:

The best Teflon coating applied on Anti-acid/Antimagnetic stainless steel provides a non-stick, non-scratch and a good thermal and chemical-resistant surface, for a smooth and flawless performance.

Advantages:

- Known for its excellent non-scratch properties, avoid scratching of wafers and electronic components.
- Known for its excellent non-stick properties, it reduces the adhesion of chemicals or delicate materials to the tweezers and allows for cleaner handling, which means that solder and flux residues (e.g. Stay Clean Paste Soldering Flux) are less likely to adhere, facilitating cleaning.
- Teflon is also known to be resistant to high concentrations of alcohol! Evidently, prolonged exposure could affect its durability, but in general, Teflon is resistant even to prolonged immersion in alcohol.
- Resistant to relatively high temperatures, although it can start to degrade above 260°C (500°F). If the temperature during soldering remains within these limits, the tweezers should be suitable.
- Generally, very resistant to a wide range of chemicals, including many types of solder fluxes.
- Good electrical insulator, which can be useful in some electronic soldering applications.

Suitable for handling delicate or sensitive objects. Useful in industries such as semiconductor industry, chemical industry, or handling of biological samples.

ION™ – ANTIBACTERIAL TWEEZERS:

Innovative coating releases silver ions which act like anti-bacterial agents neutralising germs, bacteria, and other pathogens very reliably and effectively. More hygiene for your laboratory, cleanroom and all sensitive environments and workstations.

Advantages:

- More Hygiene: Ideal where maintaining a sterile environment is essential, such as laboratories, medical device handling and all sensitive environments and workstations.
- Contamination prevention: Reduces the risk of bacteria transfer during handling.

Tweezers with antibacterial coating can be used in industries such as medicine, medical device handling, or in environments where the prevention of bacterial contamination is essential.

NANO™ – NANOTECHNOLOGY TWEEZERS:

Ultra-modern Nanotechnology coating closes even the tiniest of pores on the surface of the tweezers, made of stainless steel. Dirt, oil, water, and other liquids simply pearl off.

Advantages:

- Self-cleaning materials: Nanoparticle-coated surfaces are designed to repel dirt and water, making the materials self-cleaning and more resistant to weathering, essential in sensitive manufacturing and laboratory environments.
- Better corrosion resistance: Nano tweezers are more resistant to corrosion. This is advantageous in industrial or chemical environments where tweezers may be exposed to corrosive substances.

Nano tweezers offer a wide range of benefits impacting sectors as diverse as medicine, electronics, the environment, and energy, leading to significant improvements in performance, precision and sustainability.

SUSTAINABILITY AND ENVIRONMENT:

The use of high-quality Stainless Steel, Carbon Steel, AXAL, Titanium or Aluminium makes all products more sustainable, not only because they are durable and can be resharpened, but because they are also environmentally friendly, as these materials can be recycled several times without losing their properties.