

Press Release

12/21/2023

Metal – replacment: ELESa continues to innovate for the range of SUPER-technopolymer components

The new **STP threaded stems**, designed for leveling equipment and machinery, are crafted entirely of SUPER-Technopolymer. A state-of-the-art polymeric plastic material boasts high mechanical performance, excellent resistance to chemical agents, and optimal thermal properties.

Driving the development of the range is the widespread metal-replacement trend. Impacting an increasing number of sectors today.

Replacing metals with engineered plastics has been possible Thanks to high-performance polymers and composites. These materials, known for their mechanical strength and temperature resistance, have opened up new applications that were traditionally the domain of metals.

ELESa's leveling elements cover a wide range of materials, offering various combinations for different applications, sectors, and operating conditions. From the standard configuration with a polyamide or polypropylene-based technopolymer base to stems with zinc-plated steel or AISI 304 stainless steel joints, ELESa provides versatility. Options also include no-slip disks in NBR rubber or anti-vibration discs for damping vibrations, as well as variants entirely made of zinc-plated steel and different AISI classes of stainless steel, including 316L for special applications and Hygienic Design for environments requiring certified hygiene levels.

Standard, but still high-performance!

The new STP stems, available in different lengths and with threads from **M8 to M12**, guarantee a **maximum static load resistance** ranging from **2700 N** for the smallest sizes up to **7000 N** for the largest. The remarkable mechanical resistance is complimented by the numerous advantages typical of the SUPER-technopolymer category. Let's take a closer look at them:

- **High mechanical resistance**, thanks to the inclusion of high percentages of glass fiber bonded with appropriate chemical primers to the base polymer and/or the presence of synthetic aramid fiber.
- **Resistance to corrosion and common chemical agents**, making them suitable for applications requiring frequent washing, such as in the food, pharmaceutical, and medical industries, or for use in humid environments or outdoors.
- **Lightness**, making transport, storage, and handling more economical, especially beneficial for applications involving mobile machines or equipment.



STP stems for leveling feet



Leveling feet

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STANDARD MACHINE ELEMENTS WORLDWIDE

- **Significant economic advantages compared to traditional stainless steel or zinc-plated steel solutions.**

Figure 3 compares resistance to the most common chemical agents between the SUPER-Technopolymer version and the zinc-plated steel and stainless-steel versions. As can be seen in the detailed table, there are many more black marks (Suitable) in the SUPER-Technopolymer material column.

(Figure 4). The “y” axis shows how the range of unit costs, depending on the size, of the STP stems in SUPER-Technopolymer, for the same size of the ball joint (Ø 14), is far more cost-effective than the stainless-steel stems or even the zinc-plated steel stems.

| CHEMICAL AGENTS | SM-SST Stainless Steel AISI 304 | SM Stainless Steel AISI 304 | STP SUPER- technopolymer |
|-----------------------------|---------------------------------------|-----------------------------------|--------------------------------|
| HYDROCARBONS, OILS AND FATS | ● | ● | ● |
| WEAK BASES | ● | ● | ● |
| SOLVENTS | ● | △ | ● |
| WEAK ACIDS | △ | △ | ● |
| CHLORIDE CONCENTRATES | △ | △ | ● |
| GALVANIC CORROSION | △ | △ | ● |
| STRONG ACIDS | △ | △ | △ |
| STRONG BASES | △ | △ | △ |
| AMMONIUM CHLORIDE | ● | △ | ● |
| CALCIUM CHLORIDE 5% | ● | △ | ● |
| SATURATED CALCIUM CHLORIDE | △ | △ | △ |
| IRON CHLORIDE (III) 5-10% | △ | △ | △ |
| POTASSIUM CHLORIDE 10% | ● | △ | ● |
| SODIUM CHLORIDE 10% | ● | △ | ● |
| ZINC CHLORIDE 10% | △ | △ | △ |

Suitable ● Not suitable △

Figure 3

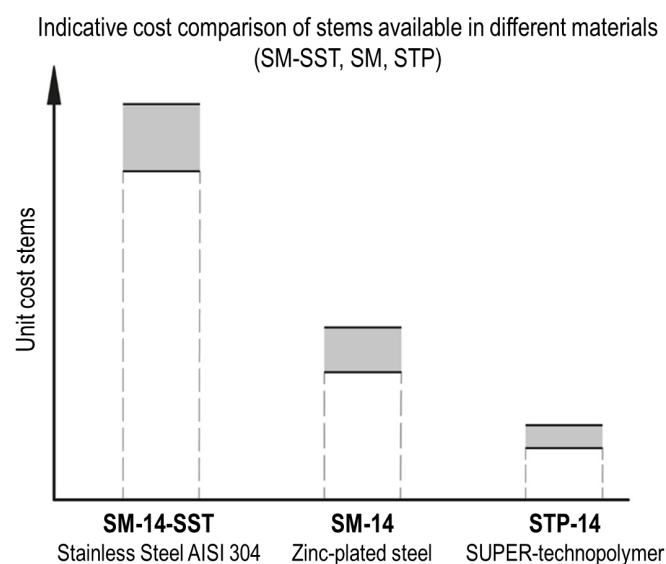


Figure 4

1941 – 2023

Serving the industry for 80 years

Elesa specializes in designing and manufacturing an extensive range of standard components for industrial machinery and equipment. Our lineup includes handwheels, clamping handles, levers, adjustable levers, clamping elements, knobs, position indicators, indexing and spring plungers, leveling feet, hinges, tube connectors, latches, accessories for hydraulic systems, modular roller tracks, castors, magnets, vibration mounts, and vacuum components. Crafted with innovative technopolymers and metals, our products boast advanced features, high efficiency, reliability, ergonomic design, and innovation. Elesa brand components find applications across diverse areas within the industrial mechanics' sector. Our unwavering commitment to research and development is complemented by a robust customer-centric service model. Established in 1941 with headquarters in Monza and fourteen subsidiaries abroad, Elesa has a global presence, exporting products to over 60 countries worldwide.

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