

POLIGRAT-PRODUCT INFORMATION

POLIGRAT E 392



Electropolishing of titanium and titanium alloys

Due to its strength, corrosion resistance, low weight and biocompatibility, titanium is increasingly used for high-quality, functional workpieces. The application ranges from medical technology to apparatus engineering, vehicle and aircraft construction to sports equipment and jewelry.

The electropolishing of titanium and titanium alloys provides surfaces of the highest quality in terms of purity, cleanability, corrosion resistance and passivity. Electropolished surfaces are free of burrs, scales and particles. Their high gloss makes them attractive for decorative applications.

Properties and effect

POLIGRAT E 392 is especially suitable for electropolishing of titanium alloys (grade 4, 5 and special alloys with Fe, Zr, V) with a titanium content > 75%, Nitinol, only suitable to a limited extent of tantalum. These high-strength electropolished workpieces are used in implant technology, in the air and aerospace industries and in the last time also in the automobile industries.

POLIGRAT E 392 is also suitable in particular for the electropolishing of Nitinol at room temperature and thereby simplifies the complex cooling of the conventional electropolishing processes. Both single parts and several parts can be polished on a jig.

The typical removal rate of approx. 10 µm / h allows the control of high precision changes of dedicated geometries. Silky-matt up to highly glossy, reflecting surfaces can be achieved.

Slightly oxidized surfaces can be removed by the electrolyte without electrolysis within a few minutes prior electropolishing (activation). Pre-pickling can be avoided in most applications.

Application

POLIGRAT E 392 is supplied ready for use and applied in immersion bathing. The workpieces are processed on a jig.

After electropolishing the surface must be rinsed clean. The rinsing water is strongly acidic and contains the dissolved metal. It is to be treated and disposed of according to the statutory laws and regulations.



before and after electropolishing
with POLIGRAT E 392

Technical data

Specific weight/density:	1.54 – 1.58g/ml
Application:	undiluted
Anodizing voltage:	20 to 30 V
Working temperature:	+20 to +35°C
Application time:	0.5 to 3.0 hour

Supply

Packing units:

▪ Plastic bottle	1.6 kg (1.0 l)
▪ Single-use canister	8.0 kg (5.0 l)
▪ Single-use canister	40.0 kg (24.8 l)

Your Advantages

- supplied ready for use
- free of chromic acid
- leveling of micro-roughness
- burr-free, metallically pure surfaces
- stress-free material removal