

TRASER

Trabecular Laser Melted Titanium

TRASER® is a **trabecular lattice** realized by **additive manufacturing process**, an innovative technology that allows to produce three-dimensional solid objects from a digital model using as a raw material metal powder.

CHARACTERISTICS

TRASER® is not a porous coating. The solid and the porous portions of the cup are built up in a continuous process, thus creating a single piece without interface layers between different portions and, consequently.

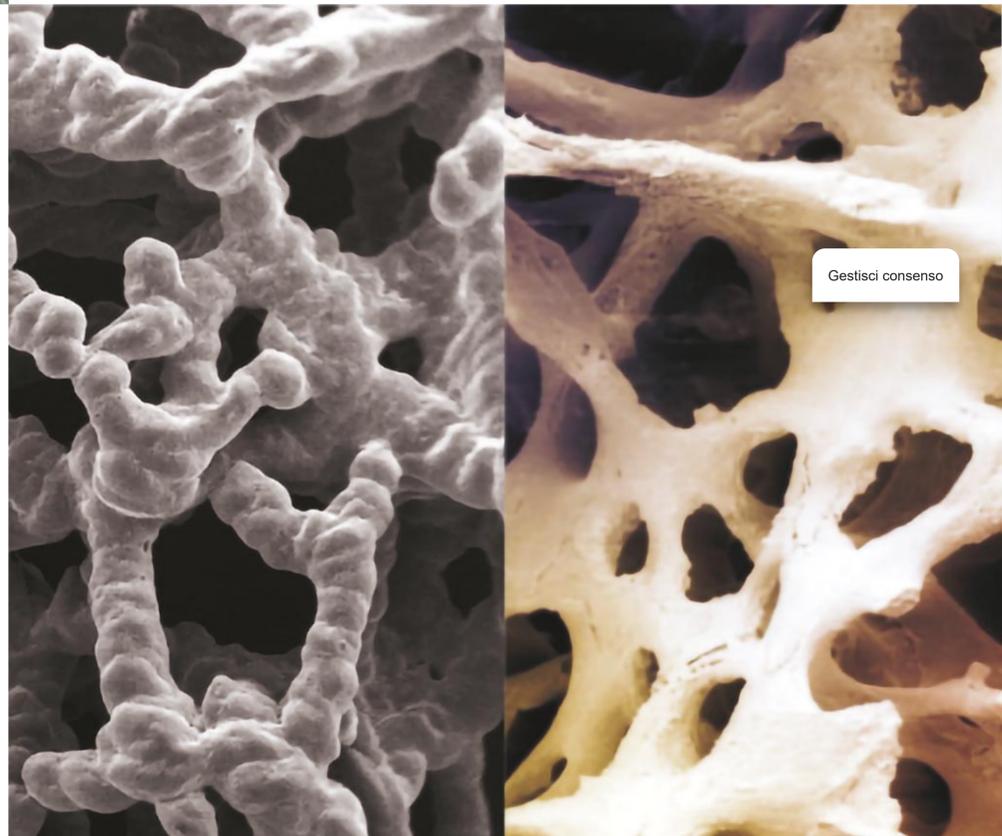
Without shear forces thus avoiding any risk of detachment.

The **highly porous trabecular network** characterized by open **irregular pores**, fully interconnected to promote **fast bone ingrowth**.

Mimicking the nature of bone to provide **bone ingrowth** and **osseointegration**^[1] for long-term implant stability.

- **Porosity:** 70%.
- Random irregular shaped pores.
- Complete permeability.
- **Pore interconnection:** 100%
- Pore size range: 100-2000 μm

[1] Ragone, V., Canciani, E., Arosio, M. et al. In vivo osseointegration of a randomized trabecular titanium structure obtained by an additive manufacturing technique. *J Mater Sci: Mater Med* 31, 17 (2020).



MANUFACTURING PROCESS

The objects are created by adding the material in successive layers one over the other up to completion of the object, this differs from traditional machining process with machine tools, in which the object is obtained by subtracting material from the raw material.

Selective Laser Melting is an additive manufacturing technology that selectively melts and sinteizes by means of a laser beam specific portions of titanium powder layer to create 3D solid parts.

Selective Laser Melting process take place in an inert atmosphere (Argon) in order to avoid any titanium powder oxidation.

Following to the SLM process the achieved components are detached from the support platform and undergo to thermal treatment and sandblasting, then to traditional mechanical machining to obtain the final implantable product.

VERSATILITY

3D printing technology offer the possibility to create porous structures with complex design and various shapes.

Permedica adopts the TRASER technology to produce prosthetic components for multiple joints: hip, shoulder and custom-made solutions.

