

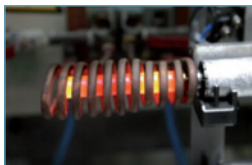
FORGING AND FINISHING

Reconstruction implants made of metals can be either obtained from machined bars, cast models but many are from near-shaped or net-shaped forging. The orthopaedic industry has been a driving force in improving forging techniques.

Forging

Forging provides key features like :

- improved tensile strength,
- fine grain structure,
- alpha casing,
- microstructure and the like.



State of the art forging incorporates the mastering of all variables such as :

- surface preparation of blanks,
- neutral heating atmosphere,
- type and heating temperature,
- material reduction of area,
- design of die,
- subsequent heat treatment,
- ...

In a properly mastered forging, throughput material ends up having improved physical properties such as strength over the input material.



Band polishing and Mechanical brilliant Polishing

Using abrasive, starting with the biggest grain (80) and gradually using the smallest (grain 320) on band engine equipped of contact wheel, offers standard polished.



The brilliant polishing results of the surface polishing with brush and cotton disc, covered by polishing paste.

Mechanical Polishing



For some items, the polishing can be done with abrasive bits under vibrations that rub the surface.

Electrolytic Polishing

After a pre polishing, a possibility is added, by using a continuous electric flow and an electrolytic liquid, to obtain an improved polished surface, essentially with stainless alloy and more difficultly with Titanium alloys and cobalt chrome.

Sand blasting

On a polished surface, fines hard particles projection under high pressure provides a shot peening effect with a satin aspect.

This treatment can be done with all types of alloys.

Anodisation

With an oxydate solution and electric power, a thin protected layer of Titanium oxide (TiO_2) on the surface of the material is created with a thickness of some micrometers, providing coloration in the case of Titanium alloy.



Passivation



Plunging the component into an oxidant liquid induces the creation of a very thin oxide layer (a few micrometers) acting as a protection film.

The aim of this surface treatment is to improve the oxidation resistance with the reduction of porosity or with the creation of a protection layer.

They can improve the appearance of the surface and impact the tribological properties of the materials and improve friction and wear properties.

Partner

LISI MEDICAL manufactures best in class implants and instruments for Orthopaedics, Spinal, traumatology and dental market.

Its expertise thrives from its unique state of the art experience in manufacturing precision critical products, in a demanding quality and regulatory environment.

Customer driven company offering innovative and competitive solutions, Lisi MEDICAL acts as an integrator and is able to provide full service from initial concepts, prototypes, preproduction and production.

The company is 9001 and ISO13483, FDA approved.

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