

Lubricant Metal LAM'LCOAT® coating for Medical and Dental activities

The LAM'LCOAT® is qualified for medical devices (ISO 10993) and for alimentation (FDA). The structure of the coating is extremely thick (1 μm), and the process is completely inert, non-toxic and non-migratory, that is the reason why it maintains the dimensions of the substrates. On the other hand, the coating is unaffected by gamma radiation and ethylene oxide. It is compatible with most substrates (ferrous and non-ferrous metals, composites, alloys, plastics, glass...), and almost lubricants, solvents, fuel, oils, acids or basis.

It has a huge range of temperature from -273°C to $+600^{\circ}\text{C}$ and from -188°C to $+1\ 315^{\circ}\text{C}$ in vacuum environment of 10^{-14} Torr. Because it eliminates the phenomenon of hysteresis thanks to its extremely low coefficient of friction (0.03 dynamic and 0.07 static) and its thickness, it has been widely used on medical products such as surgical instruments, medical and dental equipment components, pharmaceutical tablet punches, MRI and diagnostic equipment.



- Examples coated parts with LAM'LCOAT® to solve:

- ❖ Medical Equipment needing to be serviced after several years

These Phosphor Bronze screws are part of medical equipment that requires servicing every few years. Seizing of the screws is not acceptable. LAM'LCOAT® provides the dry solution!



- ❖ Medical Molds

Small finger cores 4mm x 1mm x 15mm long were sticking. These cores required high polish and then they had to be "run-in" for 24 hours before the production was usable. We coated the polished cores which proved usable immediately. We then coated unpolished (sparked) cores these also were usable without the "running-in" period.

- ❖ Example for a blood analyzer

The stainless roller shaft has been coated, which give to the machine a constant rotation at high speed, abrupt stop and start. It eliminated the use of conventional lubricants, increased the wear life by 4 times and stopped galling.

- ❖ Example for little parts

The LAM'LCOAT® thickness permits to coat little parts with thick dimensions (ex: scalpel, syringe, pliers...).



syringe, Ø 0.8 mm



- Its main advantages:
 - Is anti-seize and possesses non-stick properties
 - Is unaffected by gamma radiation and ethylene oxide
 - Prevents the materials' deformation
 - Maintains the dimensional integrity of the blades as well as the surface treatments made
 - Facilitates the sliding of the tool during precision operations
 - Permanently lubricates tools
 - The cutting edge remains sharp (ex: scalpel)
 - Limits the need for maintenance
 - Improves the tools' capacity and the quality in general
 - Enables to increase speeds and production rates, and thus to improve productivity
 - It is very interesting for parts to be chrome and where contamination of grease or silicone is not allowed
 - Prevents the reflection of shiny metals (ex: surgical tools)
 - Reduces pressure and wear, thus extending the life of tools and accessories

