Association INSTITUTS CARNOT

Carnot institutes network

Research and innovation for industry

Partnership MICA Carnot Institute - Lebronze alloys

French Group Lebronze alloys commit to the health sector with new high-performance copper alloy

The MICA Carnot Institute showed and quantified scientifically the bactericidal properties of the already marketed Steriall range.

Supporting Innovation

Lebronze alloys have been known for quite some time for using copper, a metal acknowledged to be showing a very strong micro-organism resistance, in particular against pathogenic bacteria.
However, the effects of a real activity in terms of sanitation and health protection obtained through quantitative information using sound and thorough scientific methods must be shown to both companies and the general public.

The research teams wanted to check and evaluate in real-life situations the benefits of door equipments, handles, handrails, railings as well as thrust plates required by very demanding healthcare establishments such as: hospitals, long-term care nursing homes ()…
Whereas stainless steel, widely used in door handles, remains almost inert, the French-manufactured Steriall alloy is highly effective. It has indeed proven to reduce the risk of infection through direct contact.

copyright : Steriall

The client needs

Lebronze alloys is a key player on the metal industry. Thanks to strong growth the company invests each year several millions of Euros in R&D.The already Cu+-labelled Steriall product line has been on the market since 2012.

Nevertheless, the laboratory wanted to explore without bias the anti-bacterial qualities of the Lebronze alloy mixed metal so as to present convincing elements of the copper effects upon pathogenic factors.
Following a very first positive study with the MICA Carnot Institute in 2014, the company has renewed its partnership to measure the impact of the products in real usage situations.
The MICA Carnot Institute has put forward a two-stage evaluation protocol validated through both in vitro and in situ assessments.
BIOS* laboratory's expertise in microbiology has enabled to bring about the much needed deliverables expected from the teams of the Eastern France-based foundry and supplying transformer.
Hence asserting Lebronze alloys' ambition to value the beneficial aspects of their natural copper alloys for overall human health.

** Biomatériaux et inflammation en site osseux (Biomaterials and Inflammation in Bone Site)*

Partnership

The MICA Carnot Institute supports innovation through its work on functional materials in the health, building and transport sectors. The Institute integrates 9 research laboratories and 8 technological resources centres based in the 'Grand Est (Eastern France)' region. BIOS first determined the given time necessary to kill opportunistic pathogenic agents in contact with various copper alloy touch surfaces.

The researchers then compared the microbial populations of a variety of handle types inside 5 nursing homes.
The study has confirmed that the examined bacteria have been found to survive for several months on a said support, but 90% did not by simple alloy (Steriall series) contact.
The taking methodology used made it possible for Lebronze alloys to move forward in terms of strategy against microbial resistance. It is also at the origin of a draft standard with the French Standardization Association (Association Française de Normalisation, AFNOR) on the measurement of anti-microbial activities of non-porous surfaces.

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lba lebronze alloys