

Medical

We study your requirements in complete confidentiality and develop the best plasma spray biomedical coating solutions

**PARTNER FOR ADVANCED
SURFACE ENGINEERING**

Your choice partner

Benefitting from long experience in orthopaedic implants in Europe, TeroLab Surface SAS is part of the international TeroLab Surface Group based in Switzerland, the European leader in surface treatments by thermal spraying.

As an innovator with long experience in coatings for Implantable Medical Devices (IMD), TeroLab Surface SAS is today the first-rate partner of world's leader companies.

With more than 1,000,000 implants coated, TeroLab Surface SAS has contributed for more than 20 years of excellence to the success story of cementless implants which are now the leading type on the world market.

More than 1,000,000 coated implants over more than 20 years of excellence

Key factors in the group's success are :

- reliability
- efficiency
- certified quality
- quality controls
- automated processes
- most suited solutions to our clients' needs

The group is also known to be respectful towards human and environmental values.

Solutions for all types of implants

By allowing improved primary and secondary fixation, TeroLab Surface SAS hydroxyapatite and/or titanium coatings enables our patients to get faster the quality of life they have wished before the operation.

TeroLab Surface SAS makes the coatings of cementless orthopaedic implants which are used for the arthroplasty of all the human body joints.

TeroLab Surface SAS is also in a position to offer solutions in order to meet its current and future clients requirements.

Its high-tech installations provide a production capacity of more than 200,000 implants per year.

The new plant and investment policy will enhance this capacity to meet new international challenges.

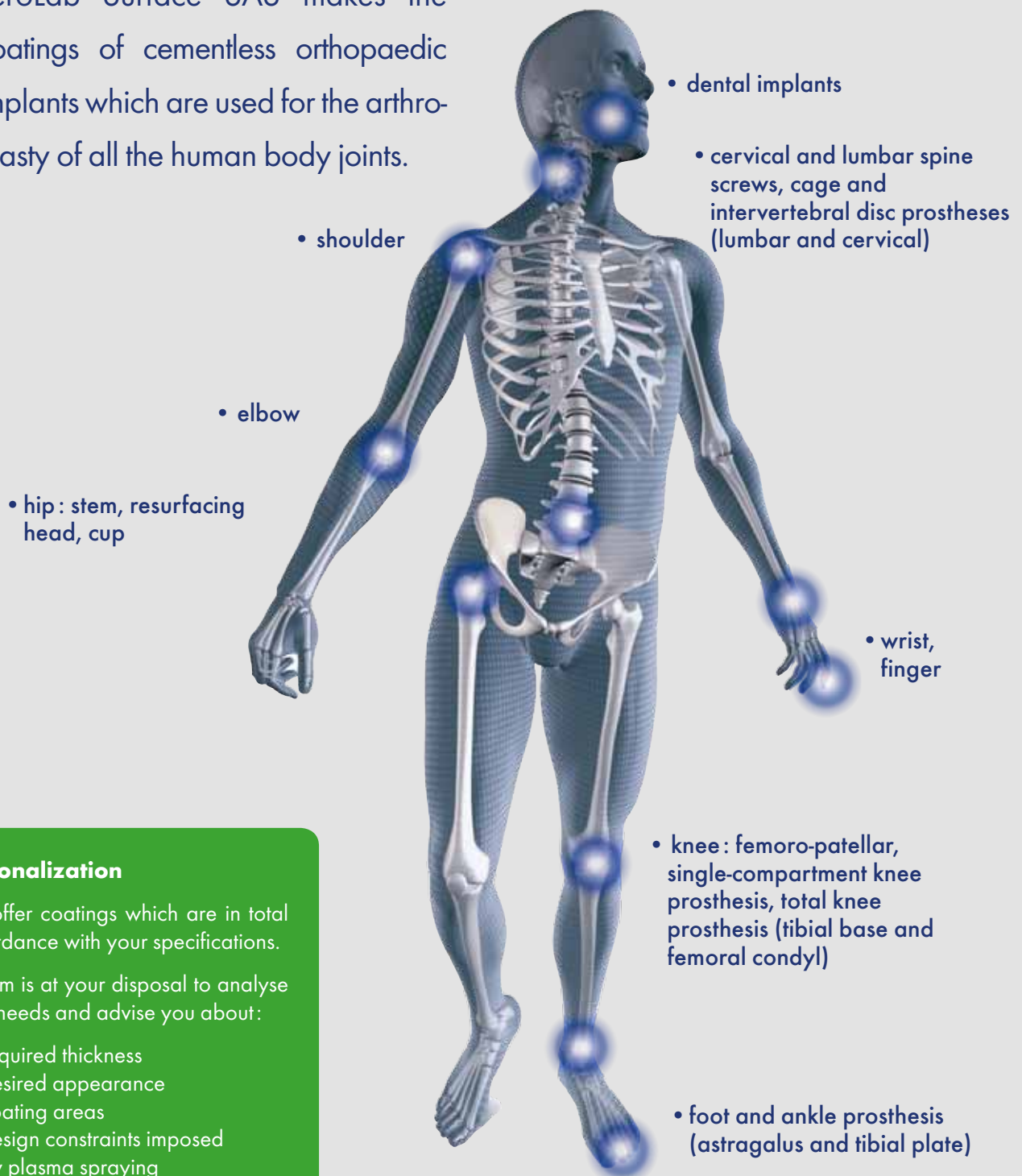
The refurbished and extended production site covering 1,200 m² is located in the Paris suburbs near Orly Airport

Our annual production capacity for coatings is higher than 200,000 implants



Products and services

TeroLab Surface SAS makes the coatings of cementless orthopaedic implants which are used for the arthroplasty of all the human body joints.



Personalization

We offer coatings which are in total accordance with your specifications.

A team is at your disposal to analyse your needs and advise you about:

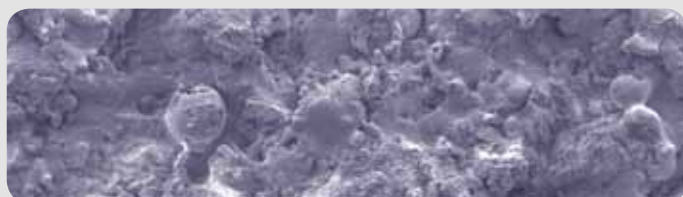
- required thickness
- desired appearance
- coating areas
- design constraints imposed by plasma spraying
- the choice of coating type

TeroLab Surface SAS offers a wide range of coatings



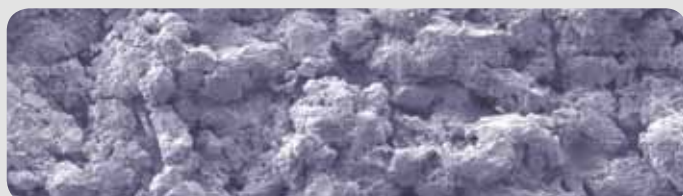
HACTICOVER WHITE®

- Thick hydroxyapatite (very white appearance)
- Master File available
- Technical file available on request



HACTICOVER®

- Thin hydroxyapatite (white appearance)
- Master File in progress
- Technical file available on request



TIBIOCOVER®

- Porous titanium (several degrees of roughness are possible) in APS and VPS
- Master File in progress
- Technical file available on request



HACTIBRID®

- Titanium + Hydroxyapatite
- Master File in progress
- Technical file available on request

OTHER COATINGS :

According to client specifications
or TeroLab Surface development

Advantages

- high-purity materials complying with ASTM and ISO standards
- optimal crystallinity
- interconnected porosity allowing bone regrowth
- bioactive or chemically inert
- strong adhesion of coatings
- controlled adsorption

Benefits provided

- stimulation of bone regrowth
- excellent biocompatibility
- perfect secondary stability
- no bacterial contamination
- faster joint mobilisation

Research & Development

Thanks to its 20 years of expertise, its technological awareness and its staff employed in R&D, TeroLab Surface SAS studies new processes and materials in the field of biomedical coatings.

TLS has doubled its engineering staff to support its own developments and those of its clients.

TLS now possesses the know-how to spray HAP onto PEEK.

Robotised equipments ensure perfect reproductibility of coatings

Permanent verification of the different manufacturing phases guarantees high quality product and total control of bacterial contamination risks.



Terolab Surface SAS possesses its own equipment for its tests and its Research and Development

1 **Acceptance and verification of implants**

2 **Masking implants**

Uncoated areas protection

3 **Gritblasting of implants**

Gritblasting roughens the surface to be coated so as to ensure adhesion of the coating on validated installations

4 **Plasma spraying on validated installations**

Terolab Surface SAS has 4 atmosphere plasma sprays (APS) units and one vacuum plasma spray (VPS) unit. VPS prevents all risk of oxidation when titanium is sprayed.

5 **Finishing, deburring in ISO7 rooms**

Since June 2010, all finishing work has been performed in ISO7 clean rooms. HA and TI coatings are deburred in different rooms.



4-Vacuum plasma spray torch



5-Clean room finishing

6 **100% quality control of implants**

7 **TEROCLEAN® (optional), cold plasma decontamination in ISO7 room**

TeroLab Surface SAS owns the TEROCLEAN® process for low temperature plasma treatment enabling implants to be decontaminated without using liquids (solvents, acids or detergents).

Advantages:

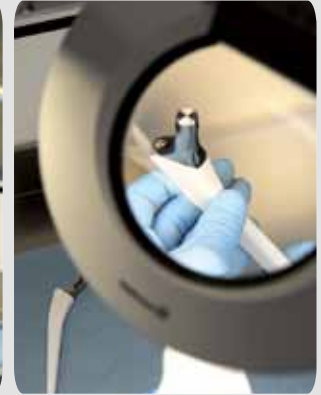
- no modification or alteration of the surface
- no organic or inorganic residues on the implant after treatment
- reduction of bioburden and surface endotoxin levels present on the coated implant.

8 **Implants packaging with or without vacuum (on request) in ISO7 clean room**

9 **Cleaning and final packing (on request) in ISO7 or ISO5 room**

10 **Delivery**

- deadline adjusted to the client's needs
- urgent deliveries: 24/48 hours (on request)



6-Implants quality control in clean rooms



7-TEROCLEAN®

Master Files

TeroLab Surface SAS will have Master Files filed with the American Food and Drug Administration (FDA) to validate the special processes of implant coatings.

Implant manufacturers may complete their technical dossiers with our Master Files.

Simply by giving the reference of the TeroLab Surface SAS Master File registered by the FDA, the manufacturers registry files will be completed easier and faster.



Give manufacturers complete satisfaction to improve the quality of life of the patients

TeroLab Surface SAS is a coatings supplier for cementless orthopaedic implants (cervical and lumbar spine, hip, knee, shoulder, elbow, wrist, ankle, fingers) and dental implants.

The excellence of our products and services offers to patients throughout the world the possibility to experienced faster a normal quality of life.

Pioneer and innovator

Thanks to its 20 years of expertise, TeroLab Surface SAS is positioned as one of the world leaders in its field. Research for new processes for implantable medical devices coatings makes of TeroLab Surface SAS the ideal partner for manufacturers in biomedical industry, providing solutions that meet current and future needs.

TeroLab Surface SAS guarantees:

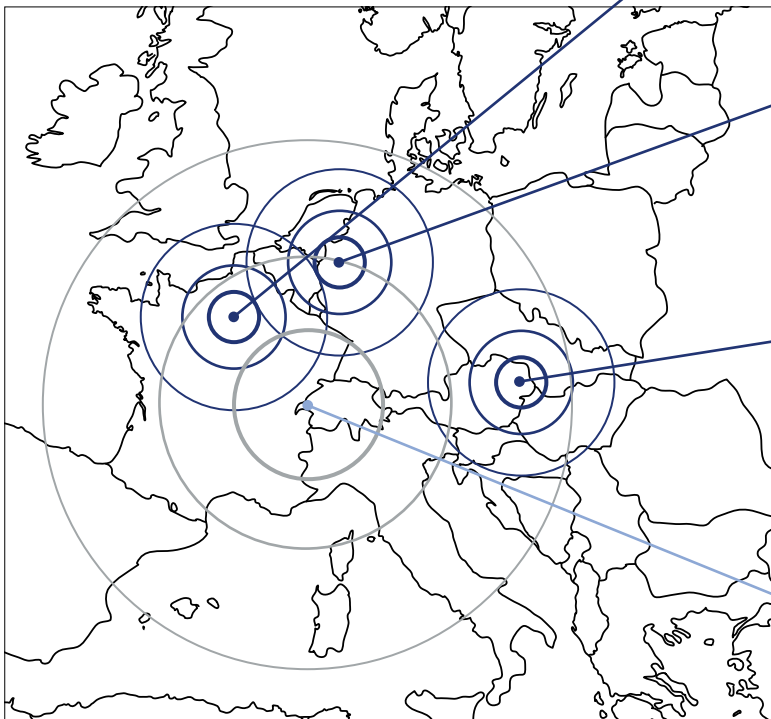
- reliable relationship and complete confidentiality
- excellence and safety in the production of its coatings
- proactive and personalised service
- respect of time delivery
- optimised solutions and appropriated advice
- ad hoc certifications

TeroLab Surface SAS values:

- quality in customer service
- the pleasure of challenge through innovation
- share the know-how
- transparency in communication
- the sense of responsibility
- the human person at the heart of the company



TeroLab Surface Group



TeroLab Surface SAS
Z.I., Rue Jean-Pierre Timbaud
F-94290 Villeneuve-Le-Roi
Tel. +33 (0)1 49 61 34 34
Fax +33 (0)1 45 97 07 84
medical@terolabsurface.com
www.tlsmedical.com



TeroLab Surface GmbH
Helmholtzstrasse 4-6
D-40764 Langenfeld
Tel. +49 (0)21 73 79 90
Fax +49 (0)21 73 81 970
anilox@terolabsurface.com
www.tlsanilox.com



TeroLab Surface GmbH
Eduard-Kittenberger-Gasse 99
A-1230 Wien
Tel. +43 (1) 865 42 52
Fax +43 (1) 865 42 52 17
repairs@terolabsurface.com
www.terolabsurface.com



TeroLab Surface Group SA
World Trade Center
Ave. Gratta-Paille 2
CH-1018 Lausanne
Tel. +41 (0)21 641 50 50
Fax +41 (0)21 641 10 86
info@terolabsurface.com
www.terolabsurface.com

ISO 13485
Medical Devices Standard
Quality Management System

ISO 14001
Environmental Management Standard
Process started by TeroLab Surface SAS

OHSAS 18001
Occupational Health and Safety Standard
Process by TeroLab Surface SAS

GTS
High quality standard and global reputation
for companies specializing in hot spraying



TeroLab Surface SAS is ISO 13485 and GTS certified

TeroLab Surface SAS coatings are registered with the Food and Drug Administration in the United States (Master Files). These Master Files guarantee quality and facilitate the commercial introduction of new implants for export to the USA.