

- Substrates: nitinol, magnesium, titanium alloys, stainless steels, cobalt chrome, PEEK
- No heat affected zone
- Controlled surface roughness
- No phase transformation during processing
- Extremely resistant to fatigue and delamination
- Fine substrate geometries and porosities preserved

Name	Hydroxyapatite
Application	Medical implants
Key Properties	Osteoconductive / Antimicrobial
Coating density (g/cm <sup>3</sup> )	≈3.2
Typical thickness (µm)	<15
Typical roughness (R <sub>a</sub> -µm)	1.5
Substrates	Nitinol, CoCr, titanium, stainless steel
Tensile strength	82.4 MPa (ASTM F1147)
Shear strength	53.1 MPa (ASTM F1044-05)
In vitro testing	Increased MG-63 proliferation

Hydroxyapatite CoBlast Skins are thin, flexible, biocompatible coatings that can be applied to medical grade metals in one ambient temperature process step. This unique application process provides excellent control over the coating composition and structure, opening up new possibilities for apatite coatings and mixed phase coatings such as HA/TCP. CoBlast is ideal for coating thermally sensitive materials such as nitinol, and substrates where fine surface details must be preserved, such as stents, foams, screws, etc.

Hydroxyapatite Skins are primarily used to provide an osteoconductive surface for orthopaedic implants, and can also be used to improve the biocompatibility of other implants. Silver substituted apatite can also be deposited to add an antimicrobial function to a surface.

A sintered apatite abrasive is used instead of conventional alumina when applying HA Skins to achieve the highest coating purity and to eliminate the risk of highly abrasive particles being included. A range of abrasive sizes are available so that the surface roughness can be tailored to specific applications, e.g. promoting cell adhesion and proliferation, or encouraging a strong mechanical bond to bone.

Please visit the publications page on our website for a list of peer-reviewed articles concerning this product.

## CoBlast

### Remove the oxide layer

The oxide layer presents a barrier to coating adhesion that must be removed for the application of high performance coatings.

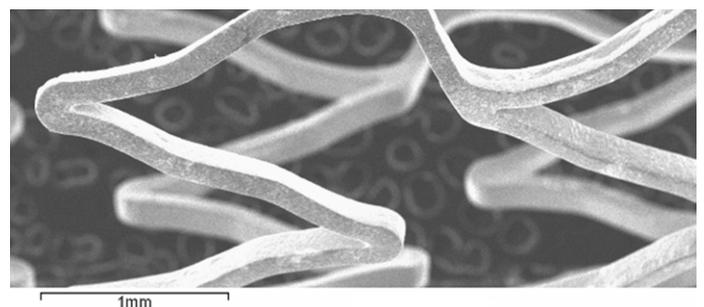
### Roughen the metal surface

Roughening the substrate and exposing unreacted metal provides an ideal surface for exceptional coating adhesion.

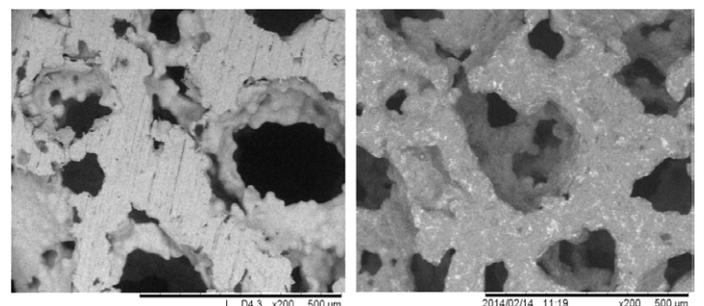
### Apply unique Skins

CoBlast Skins are highly integrated with the substrate. This gives them excellent durability and stability, and allows previously impossible properties to be achieved.

### In One Step



Coated nitinol stent



Uncoated and coated titanium foam

ENBIO, NovaUCD, Belfield Innovation Park, University College Dublin, Belfield, Dublin 4, Ireland.

Tel: +353 (0)1 525 3305 • Fax: +353 (0)1 525 3309  
info@enbio.eu • www.enbio.eu