

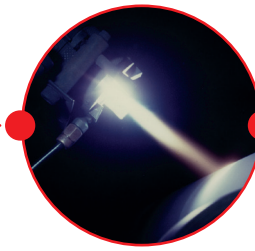
A component journey

Inner strength – Medical implants

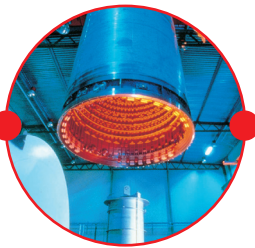
Our bones, effectively composites, absorb stresses regularly and effectively for much of our lifetime. When joints fail, they are often replaced with metal alloy implants. These implants must be incredibly strong, biocompatible, and able to last the lifetime of the patient. Take a look at the journey of a medical implant component which demonstrates how a combination of heat treatment, hot isostatic pressing and coatings makes this possible.



Cobalt chromium alloy billets are precision cast to form implant shape.



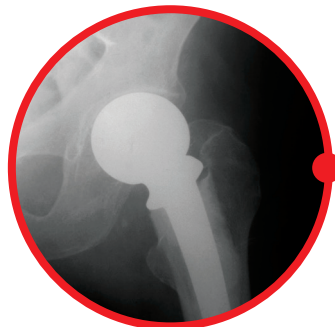
B The castings are thermally sprayed with a biomedical coating to allow a bond to form between the implant and body tissue, promoting bone growth.



B The implants then undergo Hot Isostatic Pressing to eliminate porosity, improve fatigue life and enhance the bonding of the biocompatible coating.



B Solution and ageing heat treatment is used to strengthen the implant.



End application,
joint replacement.

B Denotes the parts of the component journey undertaken by Bodycote