



ionbond

THE SURFACE ENGINEERS™

Coatings for Aerospace

IHI GROUP



Our coatings for Aerospace

Ionbond as a leading coating provider to aerospace industry

Employing over 1,000 personnel and operating from 35 facilities in 15 countries, IHI Ionbond is one of the largest global providers of thin film PVD, PACVD and CVD coatings. As a member of the IHI Corporation of Japan, a \$15 billion-dollar industrial concern with a broad aerospace footprint, Ionbond is active in providing coating services via the global network spanning through North America, Europe and Asia.

Ionbond Tribobond™ coatings are widely used within the Aerospace sector to reduce abrasion, galling and fretting wear. Typical parts include components of landing gear, flight controls, actuators along with various bearings and fasteners. In addition, Ionbond coatings are used to for various applications in jet engines – from CVD aluminizing for turbine components to PVD anti-erosion coatings on compressor airfoils. Some specialty coatings are successfully used for space applications as well. The use of such coatings reduces operating costs, increases maintenance intervals with virtually no environmental impact.

IHI Ionbond offers aerospace coatings from multiple locations in France, the UK and US, which have necessary certifications and approvals by various aircraft manufacturers.

Hard chromium replacement technology

PVD coatings are increasingly used as an environmentally safe alternative to hard chrome plating (HCP) and further can be considered as a replacement for more costly finishing methods such HVOF and Plasma Spray techniques. Thin film coatings are environmentally friendly and their production does not generate or use any hazardous materials falling under REACH or RoHS Directives. The coatings are much thinner than hard chromium, offer increased hardness, a reduced coefficient of friction and enhanced adhesion. These coatings also eliminate costly machining to final size after coating.

	PVD	CVD	PA-CVD
Coating	Tribobond™ 01, 20, 30	Ionbond™ CVD 66	Tribobond™ 40, 41
Material	TiN, TiAlN, CrN	Al	Cr/a-C:H:W Cr/a-C:H:W+a-C:H
Structure	Crystalline	Crystalline	Amorphous/nanocrystalline
Process temperature	200 – 450 °C	800 – 1050 °C	< 200 °C
Component applications	Landing gear, Bearings, Gears, Seals, Hydraulics, engine compressor blades	Turbine components of jet engine	Spherical bearings, rod ends, engine suspension, flight controls and actuators