



SURFACE
ENGINEERING IN
EXTREME
ENVIRONMENTS

Castolin Eutectic®
Eutectic Castolin



MONITOR
Coatings



EXCELLENCE THROUGH INNOVATION

HMS Queen Elizabeth and HMS Prince of Wales Aircraft Carriers

Proud to be part of the Team

Surface Engineering is one of the 22 national competencies and enablers across all high value manufacturing sectors. In modern 'High Value' manufacturing it is impossible to design new products without modifying the surface to achieve performance.

Monitor Coatings | Castolin Eutectic is part of the MEC Group which has provided patented state of the art surface engineering technology befitting the high value manufacturing achievements made in the building of the HMS Queen Elizabeth and Prince of Wales Aircraft Carriers.

The Need for Change

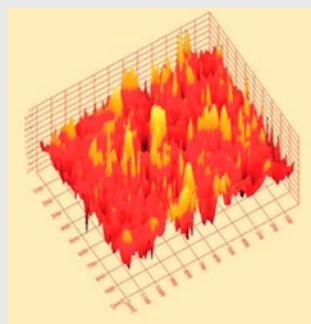
In the case of an aircraft STOVL (Short Take Off Vertical Landing), traditional paint systems are no longer capable of meeting the extreme environments experienced on the surface of the aircraft carrier deck. The flight deck of the QE Class Carriers is subjected to an extreme aero-thermal environment when the Joint Strike Fighter F-35C (CV) variant is conducting a hover transition and vertical landing on the surface.

In May 2012, the UK government, in association with the Aircraft Carrier Alliance engaged Monitor Coatings | Castolin Eutectic to investigate and develop a suitable deck coating that would withstand the aero thermal environment and gas wash exhaust, to the technology readiness levels acceptable for large scale application on the HMS Queen Elizabeth and HMS Prince of Wales. Following years of innovation and development, in 2014, Monitor Coatings | Castolin Eutectic were awarded the prestigious contract to apply the specialist metallic non-skid thermal metal spray (TMS) coating system, combined with a unique sealing system.

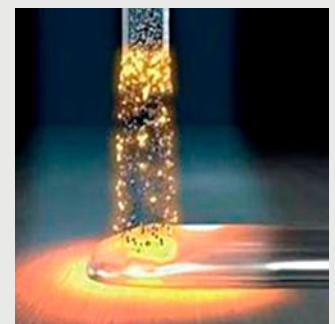
A Proud Heritage

The North East of England has a proud history of ship building and support services and is also home to Monitor Coatings since 1927. Monitor Coatings has long been one of the unsung heroes of technological innovation, continually proving itself as a worthy player in a global arena.

Now part of a multi-billion euro organisation, with more than 35 operations throughout the world, Monitor Coatings, stronger with Castolin Eutectic and the MEC Group, continues to pave the way for surface engineering innovation through inward investment and ground-breaking research and development.



Surface roughness profile at x100 magnification



Advanced coating system for deposition of complex alloys