



Large-scale thermal and cold spraying facility

Custom-made spraying facility housing six-axis robot-mounted Impact Innovations 5/11 Cold Spray System

State-of-the-art large-scale thermal spraying facility hosting TWI's range of thermal spraying technologies for industrial coating application development.

Features and benefits

- Versatile facility designed to be reconfigured for multiple industrial applications of thermal and cold spray technologies
- Can function as one very large cell or be partitioned into two spray cells
- Use of a six-axis robot and appropriate manipulators can enable the coating of complex component geometries and large components and sections

Some applications

- Development, testing and optimisation of new coatings to provide specific surface functionality, eg electromagnetic shielding, combating wear, corrosion, thermal degradation, etc
- Development of coating procedures and manufacturing specifications
- Upscaling and pre-production procedure development, demonstration and validation
- Development of cold spray techniques for additive manufacturing and/or surface repairs of metallic components
- Development of corrosion-mitigating spray coatings for nuclear, offshore wind and marine sectors

Technical specification

- Soundproof booth 7.5m wide, 6m deep and 4m high with state-of-the-art extraction system
- OTC FD-V50 robot arm: six-axis manipulator with a payload capacity of 50kg
- Can accommodate a variety of thermal spray technologies including high-velocity oxy-fuel (HVOF), cold spray, twin wire arc spraying, flame and plasma spraying
- Houses latest-generation Impact Innovations 5/11 cold spray system (maximum operating parameter window 50 bar at 1100°C or 60 bar at 1000°C)

