Tungsten Carbide Coating

Tungsten carbide coating can be applied to Ariel's piston rods using a High Pressure High Velocity Oxygen Fuel process, HVOF. The HVOF process is a thermal spray process by which fuel, oxygen and hydrogen are burned to produce a hot high pressure gas stream. A tungsten carbide, cobalt and chromium powder is injected into the high velocity gas stream and is accelerated towards the piston rod. The high energy and hot powder forms a near pore-free density level of tungsten carbide on the surface of the piston rod.

For the Ariel piston rods, the HVOF process creates a final coating thickness after machining of 0.003 to 0.005 inches and a hardness level of 68-73 Rc.