

Purpose of Coatings

Thermal barrier coating

Oxidation protection

Application

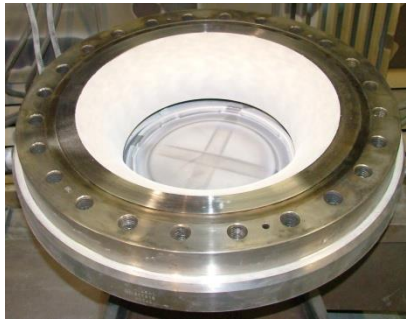
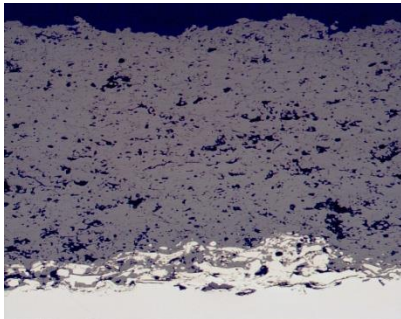
Turbine blades
 Burner chambers
 Burner parts
 Thermal shields
 Pull rods

Pistons
 Valves
 Cylinder heads
 Casting moulds

Features

Coating thickness:	D =	0.2...0.5 mm
Porosity:	Φ <	8...14 %
Roughness as sprayed:	R _z ≈	40 μm

Very high thermal shock resistance due to high microporosity of the coating.



Chemical Specification

ZrO₂-CaO
 ZrO₂-MgO
 ZrO₂-Y₂O₃

Physical Specification

Hardness: ~ 800 HV_{0.3}
 Density (theor.): 5.2 g/cm³
 Tensile Adhesive Strength
 (EN ISO 14916): > 20 N/mm²
 Thermal conductivity: 1 W/mK
 Operat. temperature: < 1350 °C

Spraying Technology

APS: Plasma spraying