

DATASHEET TARDISPHERE

PRODUCT OVERVIEW

Tardisphere is a tungsten carbide layer that combines a high corrosion resistance with an excellent wear resistance. The tungsten carbides are imbedded in a matrix of a nickel-based superalloy and have a hardness of 3000HV. This layer can be used for new components as well as repairs. The layer thickness may vary between a minimum of 225µm and a maximum of 1500µm. In case a layer thickness is required of more than 1500µm, an intermediate layer can be applied with a Tardisphere top layer.

TYPICAL APPLICATIONS

Tardisphere has proven itself in highly aggressive and polluted environments with a high risk on wear. It is often being used on earth moving equipment for dredging and mining purposes (backhoe excavators), on mandrels and on wear sleeves. Tardisphere is also excellent as a cladding on bearing surfaces, like on shaft ends or ship propeller drive shafts (oil or water lubricated).

TECHNICAL SPECIFICATIONS

Corrosion resistance (ISO 10289)	> 1000hrs, grade 10
Pitting resistance (PREN)	51
Wear resistance (ASTM65 volume loss)	25mm3
Impact resistance (# impacts@20 Joule)	> 7.000
Ductility	Very high
Micro hardness	2700HV
Thermal shock resistance	Very high
Operating temperature to maintain properties	< 950 °C
Roughness	0,15 < Ra> 1,6 µm
Bonding strength	∞ (infinite; intermetallic bonding)
Porosity	0%
Heat affected zone	< 0,2mm
Topclad length measurement system	Optional

