

Product Code: CFIPAL

Product Name: Chrome free high temperature silicon modified diffusion aluminide coating for hot corrosion and oxidation protection.

New Omat 7/129B approval



Product Description

CFIPAL is a totally chrome free silicon modified diffused aluminide coating designed as a protective coating for gas turbine hot section parts at temperatures up to 1000°C. CFIPAL can be used for nickel-based turbine alloy materials as it imparts a high temperature oxidation resistant coating for turbine parts in all areas of aero, industrial, and marine gas turbine use.

CFIPAL is an aluminium rich slurry coating that can be applied with standard spray equipment. This is then diffused at high temperature (from 870 °C / 1600 ° F) in argon and other furnaces.

The CFIPAL kit itself comprises Part A clear binder base: Part B aluminium slurry; mixed 1:1 by volume, and a separate clean one litre plastic bottle that parts can be combined and rolled in.

Product Development - History

With EU REACH and other environmental regulations concentrating on SVHC (Substances of Very High Concern) and existing product IP1041 IPAL containing chrome VI; a concerted R&D effort was started with the INNOVATE UK funded project called CASCOAT to find an alternative to successful chrome containing IP1041 IPAL. This looked at developing a chrome free alternative to IPAL. INNOVATE UK funded in 2014 – 17, but subsequent continued research was funded by Indestructible Paint. The product showed viability in 2020, but Covid delayed its roll out as personal contact was needed to ensure correct application before diffusion took place. This technique has now been perfected, and is being trained out as we gather knowledge of different techniques



Approvals/Specifications

MSRR 1041; NEW RR Overhaul ; OMAT 7/129B | Pending Siemens UK approval

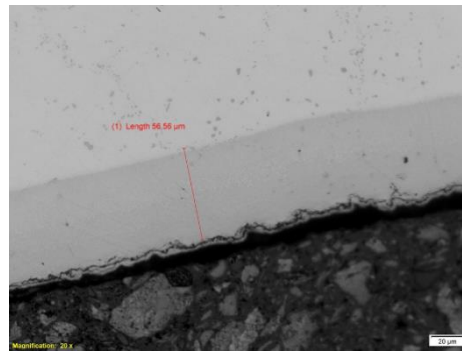


Performance

Can successfully be diffused to 40 – 70 microns after successful correct application of the dried overlay coating of CFIPAL



CFIPAL coated part with example of a typical cut through

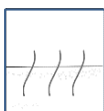


Typical diffusion - nickel based super alloy



Components

2 Part Kit supplied with mixing vessel.
 Part A clear binder
 Part B aluminium slurry
 Empty 1 litre plastic bottle to allow mixing
 240 micron filter



For Application, drying and curing see IPAS



Technical Properties

Supply Viscosity	Supplied as Kit
Flash Point	See SDS
VOC Content	See SDS
Colour	Grey
Gloss	Matt
Pack Size	2 L Kit, 1 litre Part A Clear Binder base , 1 litre Part B aluminium slurry
density	2 Part Kit, Mixed component approx. 1.32g/m ³
Thinner	Demineralized Water
Solvent/Clean Up	Demineralized Water
Catalyst	Sold as Kit Product
Theoretical Coverage	2.2 m ² at 100-micron pre-diffusion.



Recommended Storage

Highly flammable liquid: store and use in accordance with the flammable liquid regulations

Shelf Life: 12 months temperate; 6 months tropical

Before use, refer to Product Safety Data Sheet

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Safety Data Sheets

For Safety Data Sheets please contact our sales Department:

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