

Self-fluxing alloy coated roll

In general, Ni and Co-base self-fluxing alloys are designed as thermal spray coating materials to the applications which require corrosion and wear resistance on the surface.

Thermal spraying process is followed by fusing process which melts as-sprayed coating.

The fusion process results in not only remove defects such as voids and non-metallic inclusions from the coating layer but also strong bonding with the back material by alloying at the interface between them. DHF successfully developed the unique fusion process which employs IH as a heat source to secure very tight and precise temperature control of the process.

And it realizes uniform and consistent quality of the coating.

Furthermore, by using IH fusion process, it makes possible to apply more high performance materials, such as self-fluxing alloy base composite materials, which require precise control at higher temperature than conventional self-fluxing alloys.

Delivery example

Garbage incineration facility, Steel plant ... etc

Process capacity

Max. dia	1500mm
Max. length	3500mm
Max. weight	5000kg

Process flow of self-fluxing coated roll

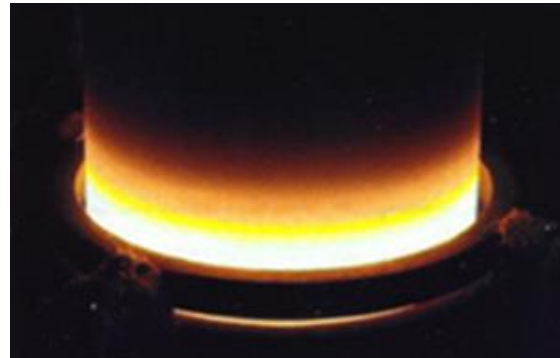
Self-fluxing alloy

By remelting treatment after spraying (fusing)

▶ Completely infused and

▶ Penetration pores disappear (all independent pores)

▶ Improved adhesion with the substrate
▶ Corrosive solutions, etc are completely blocked

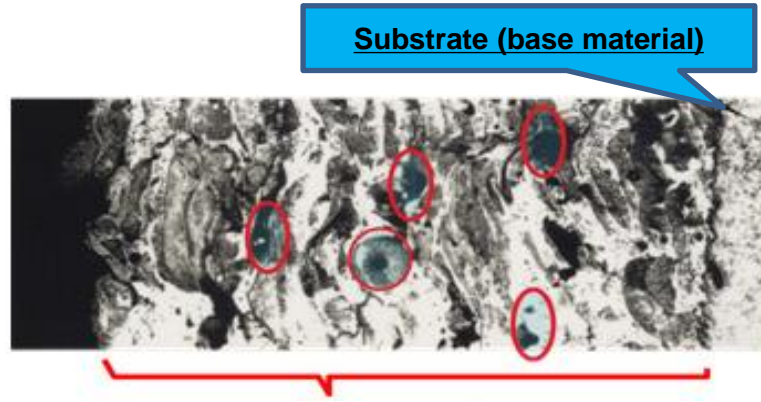


Fusing after spraying

Spraying self-fluxing alloy on the roll
Fusing (melting) as-sprayed coating layer
Dense and clean (defect-free) coating layer
Strong bonding with base material by alloying
Increase bonding strength and corrosion resistance

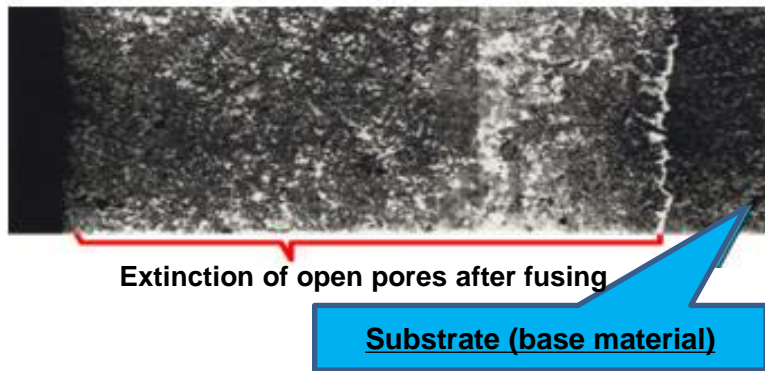
Microstructure of as-sprayed coating and fused by IH

As-sprayed



Film tissues after spraying (majority pore interposition)

Fused by IH



Extinction of open pores after fusing

Lining layer (Defects-free)

DHF self-fluxing alloy grade

Nickel-based self-fluxing alloy DHS-SW series

Grade	SW1600	SW1618	SW1641
Alloy type	SFNi4 or equivalent	High Mo	High Cr
Spray gun	Frame	Frame / Plasma	Frame / Plasma
Hardness (Hv0.5)	700-800	700-800	500-600
Performance	Wear-resistance / Corrosion-resistance	High corrosion resistance	High corrosion resistance

Cobalt-based self-fluxing alloy DHS-SCW series

Nickel-based self-fluxing alloy DHS-SHW series

Grade	SCW180	SCW200	SHW350
Alloy type	SFC0 or equivalent	High W	SFWC2 or equivalent
Spray gun	Frame	Frame	Frame / Plasma
Hardness (Hv0.5)	600-700	800-900	900-1000
Performance	Corrosion resistance	Wear-resistance / corrosion-resistance	High corrosion resistance