

Ni-PTA WC

Nickel-based hardfacing powders with tungsten carbides for PTA

Ni-PTA WC powders are designed to **protect new parts and restore worn parts** exposed to demanding abrasion, in order to extend their service life.

They combine a **nickel-based matrix with tungsten carbides**, deposited by Plasma Transferred Arc to form a hardfaced layer metallurgically bonded to the substrate.

PROPERTIES & APPLICATIONS

The Ni-PTA WC range provides **enhanced protection against abrasion**. Tungsten carbide particles resist abrasive material attack, while the nickel matrix maintains bonding quality and helps provide resistance to corrosion.

It is intended for hardfacing wear areas on conveying, mixing and material-processing equipment.

Typical applications: conveyor and decanter screws, mixer blades, drilling tools and dies, particularly in the mineral, brick & tile, and waste treatment industries.

CHEMICAL COMPOSITION

(% by mass)

References	Matrix hardness HRC	% Matrix	Matrix particle size μm	Typical WC microhardness Hv 0,1	% WC	WC particle size μm	Packaging
Ni-PTA 402015 WC	40	80%	60-180	2000-2500	20%	100-150	5 kg container
Ni-PTA 403515 WC	40	65%			35%		
Ni-PTA 404015 WC	40	60%			40%		
Ni-PTA 604015 WC	60	60%			40%		
Ni-PTA 405015 WC	40	50%			50%		
Ni-PTA 605015 WC	60	50%			50%		
Ni-PTA 406015 WC	40	40%			60%		
Ni-PTA 606015 WC	60	40%			60%		

APPLICATION

Ni-PTA WC powders are applied using **Plasma Transferred Arc hardfacing equipment** fitted with a powder feeding system. The arc melts the nickel matrix and the substrate surface to form a metallurgically bonded deposit in which the carbides are embedded.

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