

**Description:**

**FT-PO-Dia20ST-PL** is a metal matrix composite powder for use with plasma transfer arc welding (PTA) and laser cladding. It was developed to provide coatings that exhibit high wear resistance and maintain some ductility despite high concentration of diamond pellets and tungsten carbide.

**FT-PO-Dia20ST** is composed of equivalent 20% diamond pellets and a high concentration of spherical fused tungsten carbide in a NiCrBSi metal alloy.

The diamond pellets have been specially developed with a coating to protect the diamond particles during the welding process and favor their anchoring in the coating.

**Application**

**FT-PO-Dia20ST** is designed to hard surface a wide range of ferritic and austenitic steel. It has proven very effective to protect component in the oil and gas industry such as downhole motor components (fixed bend housing, adjusting rings, stators...) as well as industrial processing equipment, mixers, screws, pumps.

It is recommended to have a buffer layer first (FT-PO-Ni19-PL or hardfacing with lower tungsten carbide content and softer matrix).

The coatings can only be ground (diamond wheel, wet grinding recommended)

**Composition :**

Ni	Cr	Si	B	C	Fe	Dia Pellet	SFTC
Balance	<2	1.5-2.5	1-2	<0.2	<0.2	20%	25-35%

**Properties:**

Hardness matrix : 32-42HRc (outside dilution for PTA welding)

Hardness SFTC : 2,650-3,200 HV<sub>0.1</sub> (average)

Melting point matrix : (1650-1950 °F)

Density : 8-8.2 g/cm<sup>3</sup>

Grain size : 53-360 µm

**Packaging** : 10 lbs bottles (larger containers on request)