

Bulletin

Powder Characteristics

TAFE 1310VM Tungsten Carbide – 10 Nickel

Nominal Composition: **% Weight**

Tungsten Carbide	90
Nickel	10

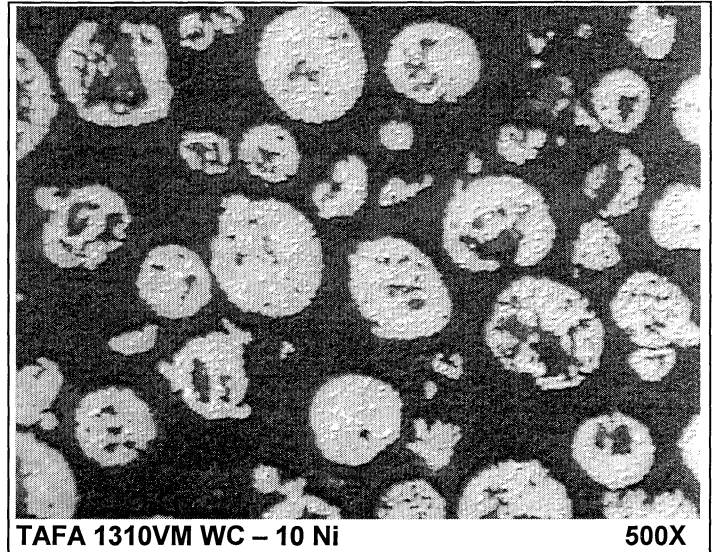
Powder Type: Spray Dried & Sintered

Particle Shape: Mainly Spherical

Particle Size: -325 mesh (-44 μ)

AD (g/cm³) (ASTM B-212) typical: 4.8

HF (sec/50g) (ASTM B-213) typical: 13.15



This powder has been made exclusively for high velocity thermal spraying. TAFE 1310VM powder is used to produce dense, hard and tough coatings that are suited to many applications. These include sliding wear, erosion, impingement, abrasion and fretting wear. Using nickel as a binding material gives the resulting coating, more corrosion resistance than cobalt based tungsten carbide coatings. TAFE 1310VM can be used in the JP-5000 and JP-5000ST HP/HVOF and the Jet Kote¹ HVOF.

Typical Applications:

- Oil field apparatus, especially high wear areas on “down hole” equipment
- Repair of dies, feed screws, gas transmission equipment, and induced draft fans
- Industrial pulleys
- Induced draft fans
- Compressor shafts and rods
- Pump components such as: rotors, stationary rings, impellers, seals, sleeves, pistons, and valves

Consult your TAFE coatings application engineer for help in solving your specific coating requirements.

¹ Jet Kote is a trademark of Stoodly Deloro Stellite, Inc.

Typical High Velocity Applied Coating Properties*:

Finish	As Sprayed	175 μ in R _a
	Ground	Less than 10 μ in R _a
Bond Strength		10,000 psi (Epoxy failure at 0.015" thickness)
Hardness -	Superficial	88 - 91 R _{15N}
	Macro	60 - 62 R _C
	Micro	1000 - 1200 DPH ₃₀₀
Microstructure -	Porosity	1 - 4%
	Oxides	1 - 5%

* For more specific coating data, see the Coating Properties Bulletin for each particular system (JP-5000 and JP-5000<->ST).

The information provided herein is believed to be accurate and reliable; however, results may vary with workpiece preparation and operator technique. TAFE warrants only that the powders are free of defects in material and workmanship. No other warranty is expressed or implied.

Hazards:

Observe normal spraying practices. Respiratory and hearing protection is advised. For general guidelines see AWS Publication C2.1-73, and AWS TSS-85. Thermal spraying is a safe process when performed in accordance with proper safety measures.

TAFE Delivers Your "Operating Advantage"

TAFE's primary objective is to ensure you consistently get the coating quality you require...with greatest application ease...at the lowest coating costs. TAFE accomplishes this by engineering the most advanced thermal spray materials and equipment available.

***Coating Performance + Ease-of-Use + Low Costs =
"Operating Advantage"***

For further information on HVOF coatings, equipment and supplies, as well as other thermal spray processes and custom automated systems, contact: