

# Bulletin

## Powder Characteristics

### TAFE 1343VF Tungsten Carbide – 17 Cobalt

#### Nominal Composition: % Weight

Tungsten Carbide	77
Cobalt	17
Carbon (total)	4
Iron	1
Others	1

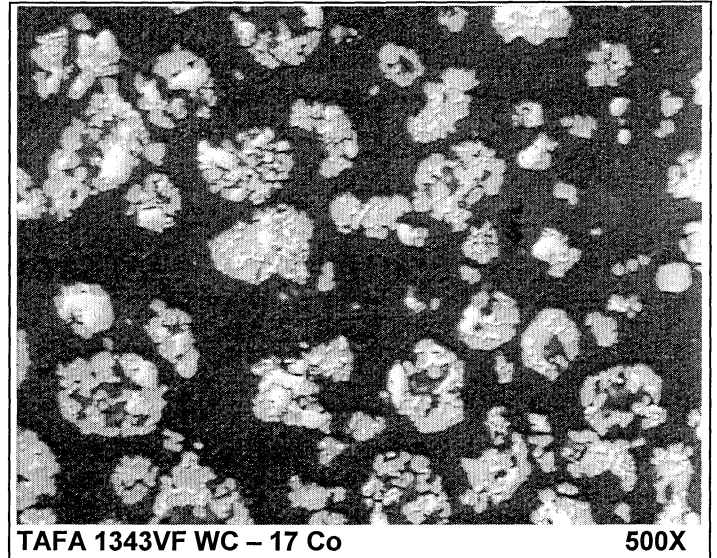
**Powder Type:** Spray Dried & Sintered

**Particle Shape:** Mainly Spherical

**Particle Size:** -325 mesh (-44 $\mu$ )

**AD** (g/cm<sup>3</sup>) (ASTM B-212) typical: 3.81

**HF** (sec/50g) (ASTM B-213) typical: 19.2



#### Overview:

This powder has been made exclusively for high velocity thermal spraying. TAFE 1343VF 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. TAFE 1343VF can be used in the TJ-4000 HVOF, JP-5000 $\leftrightarrow$ ST HP/HVOF and the Diamond Jet™.

#### Typical Applications:

##### Commercial:

- Oil field apparatus, especially high wear areas on "down hole" equipment
- Wire drawing equipment including "blocks", capstans and pulleys
- Repair of extrusion dies and molds
- Repair of plastic granulation screws and equipment
- Micronizer/Pulverizer liners
- Chrome plating replacement

##### Aircraft Engines

- Fan and compressor blades
- Trunions and mid-span supports
- Main power take-off gear
- Accessory parts

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

**Typical High Velocity Applied Coating Properties\*:**

Finish	As Sprayed	130 $\mu$ in R <sub>a</sub>
	Ground	Less than 10 $\mu$ in R <sub>a</sub>
Bond Strength		10,000 psi (Epoxy failure at 0.015" thickness)
Hardness -	Superficial	88- 91 R <sub>15N</sub>
	Macro	60 - 64 R <sub>C</sub>
	Micro	1000 - 1200 DPH <sub>300</sub>
Microstructure -	Porosity	1 - 4%
	Oxides	1 - 5%

\* For more specific coating data, see the Coating Properties Bulletin for each particular system (JP-5000<>ST, AF-3000, TJ-4000).

**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: