

# Bulletin

Praxair Surface Technologies  
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## Powder Characteristics

### TAF 1375VF Chromium Carbide – 25 NiChrome

<b>Nominal Composition:</b>	<b>% Weight</b>
Chromium Carbide	75
Nickel	20
Chromium	5

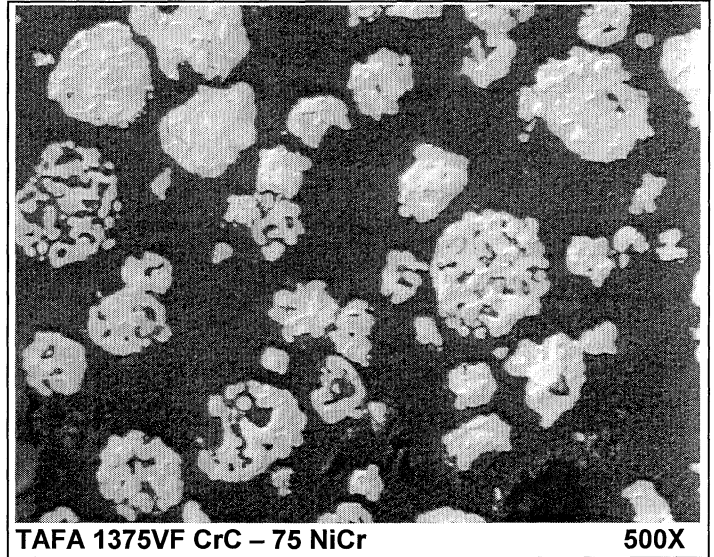
**Powder Type:** Spray Dried & Sintered

**Particle Shape:** Mainly Spherical

**Particle Size:** -325 mesh (-44µ)

**AD** (g/cm<sup>3</sup>) (ASTM B-212) typical: 2.31

**HF** (sec/50g) (ASTM B-213) typical: 46.0



TAF 1375VF CrC – 75 NiCr

500X

### **Overview:**

This powder has been made exclusively for high velocity thermal spraying. TAF 1375VF powder is used to produce dense, well bonded, very hard coatings that are suited to many applications. These include hard surfacing, abrasion and fretting wear. The resultant coating is also resistant to corrosion, heat, and oxidation in temperatures up to 1500°F (815°C). TAF 1375VF can be used in the TJ-4000 HVOF, JP-5000<math>\leftrightarrow</math>ST HP/HVOF and the Diamond Jet™.

### **Typical Applications:**

- Petrochemical industry: Compressor rods  
Sucker rods  
Ball valves
- Hard chrome replacement: Valve stems  
Landing gear rods  
Camshaft lobes  
Camshaft journals
- Fuel rod mandrels
- Paper rolls
- Hot crushing rolls
- Fretting wear environments up to 1500°F (815°C)

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

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

Finish	As Sprayed	200 $\mu\text{in } R_a$
	Ground	Less than 10 $\mu\text{in } R_a$
Bond Strength		10,000 psi (Epoxy failure at 0.015" thickness)
Hardness -	Superficial	85- 89 $R_{15N}$
	Macro	53 - 57 $R_C$ (converted)
	Micro	775 - 1100 $DPH_{300}$
Microstructure -	Porosity	<1 - 4%
	Oxides	1 - 5%

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

**The information provided herein is believed to be accurate and reliable; however, results may vary with workpiece preparation and operator technique. Tafa 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.

**Tafa Delivers Your "Operating Advantage"**

Tafa's primary objective is to ensure you consistently get the coating quality you require...with greatest application ease...at the lowest coating costs. Tafa 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: