Technical Data

Bulletin

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Praxair Surface Technologies
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POWDER CHARACTERISTICS
TAFA 1334F 50% TUNGSTEN CARBIDE-12% COBALT / 50% NICKEL CHROME SF ALLOY

Summary:

The 1334F powder is made exclusively for thermal spraying. TAFA 1334F is a 50/50 powder blend comprised of tungsten carbide - cobalt and nickel chromium self fluxing alloy. Spraying with TAFA 1334F results in smooth coatings which are hard (R_C 58-60), dense and corrosion resistant. Good finishes can be achieved with little stock removal. TAFA 1334F can be "fused" after spraying to produce an even denser coating that is essentially pore-free and metallurgically bonded to the substrate. Though in many cases the coating produced can be used in the "as sprayed" condition to replace spray and fused coatings. The coatings are well suited for wear resistance by abrasion and hard surfaces, particle erosion and fretting at temperatures up to 1000°F (537°C).

CAUTION: All TAFA powders are produced to exacting specifications and have been optimized for use in the JP-5000 HP/HVOF and PlazJet plasma spray processes. Use of other powders may not produce the properties listed in this Technical Data Bulletin.

Applications:

This material when used, with TAFA's JP-5000 HP/HVOF system, doesn't seem to have thickness limitations as with other thermal spray processes. Coating thickness of over 0.100" (2.5 mm) are sprayed on a variety of applications. Some of these applications include:

- Steel mill rolls
- Wire drawing capstans
- Pump plungers and sleeves
- Extrusion screws and barrels in plastics processing
- Glass mold plungers
- Plug Gauges
- Sucker Rod Couplings
- Cam Followers
- Exhaust Fans
- Replacement for hard chrome plating

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

Composition:

WC - 12Co	WEIGHT %	Ni SF Alloy	WEIGHT %
Tungsten Carbide	88	Nickel	Remainder
Cobalt	12	Chromium	16
		Silicon	4
		Iron	4
		Boron	3.5
		Carbon	0.8

Particle Size: -270/D

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.

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

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