Technical Data

Bulletin

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Praxair Surface Technologies
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POWDER CHARACTERISTICS

TAFA 1276F NICKEL-TUNGSTEN-CHROMIUM Self-Fluxing Alloy

Summary:

The 1276F powder is made exclusively for thermal spraying. Spraying with TAFA 1276F results in smooth coatings which are hard (R_C 55), dense and corrosion resistant. Good finishes can be achieved with little stock removal. TAFA 1276F is a prealloyed powder in which the carbide particles are an integral part of the microstructure and not added externally as in conventional blended powders. The carbides are held securely in the coating matrix and will not erode prematurely. TAFA 1276F is a self-fluxing alloy that can be "fused" after spraying to produce an even denser coating that is essentially pore-free. 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 cavitation. The high tungsten content helps to make the coating resistant to high temperature environments, in excess of 1500°F (815°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 JP5000 HP/HVOF system, does not 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. These applications include:

- Steel mill rolls
- Wire drawing capstans
- Pump plungers and sleeves
- Valve seats
- Extrusion screws and barrels in plastics processing
- Glass mold plungers
- Thermowells
- Replacement for hard chrome plating
- Particle erosion wear
- Pump cavitation wear
- Resisting fretting wear
- Power generation "soot blower" erosion

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

Composition:

	WEIGHT %
Nickel	Remainder
Tungsten	17
Chromium	15
Silicon	4
Iron	3.5
Boron	3
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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