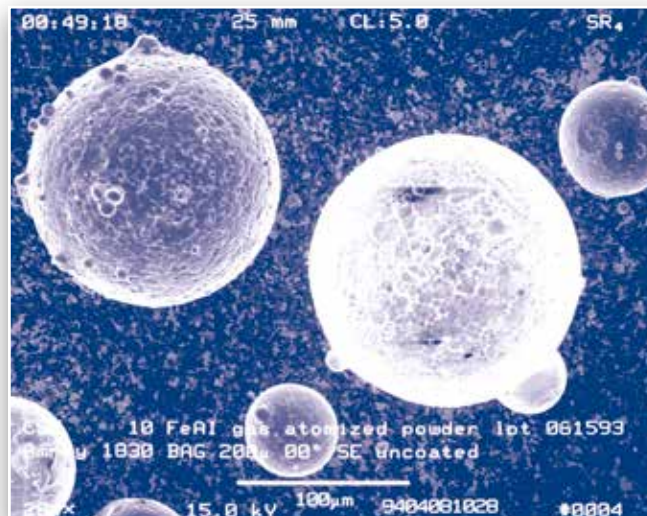


# Thermal **Spray** Powders



Whether your finished part requires low, medium or high degrees of hardness, machinability, impact and abrasion resistance or corrosion resistance, we have an alloy to meet your needs. We offer a wide selection of thermal spray alloys in the proper mesh sizes and with the spherical shape required to optimize any thermal spray process. The information below illustrates some of the standard alloys available from **AMETEK**. We also manufacture custom atomized powders for special applications.



## Alloy Characteristics

Large variety of choices to meet your thermal spray requirements.

### PF20

Good machinability. High impact resistance. High ductility. High tensile strength. Deposits can be hand finished. Recommended for repair of cast iron parts.

### PF25

Deposit has good machinability and impact resistance, slightly harder than PF20. Excellent corrosion resistance. May be used for repairs to cast iron parts or overlay where nickel base alloy is required.

### PF35

For coatings requiring intermediate hardness, excellent machinability and resistance to corrosion, heat and cracking. Use on shafts, sleeves, and wear surfaces.

### PF40

High build up capability. Good impact and abrasion resistance. Excellent machinability. Suggested for use where precision finish is required.

### PF50

Intermediate hardness. Excellent weldability and crack resistance. Use on polish rods, liners, shafts, valve gates, and coupling.

### PF55

Excellent abrasion and corrosion resistance. Good hardness. Ideally suited for boiler coating applications.

### PF60

Non machinable. Finish surface by grinding. Excellent abrasion and corrosion resistance. High hardness. Excellent weldability. Use on couplings, shafts, polish rods, plungers, and valves.

### PI600

Excellent machinability. Work hardens in service. Good wear and corrosion resistance. Use on motor shafts and pump sleeves.

### PCN 38

Copper-nickel alloy. Very dense coating. Corrosion resistant. Recommended for use on printing rolls.

### 316L

Produces corrosion resistant work hardenable finish. Excellent machinability.

**AMETEK**<sup>®</sup>  
SPECIALTY METAL PRODUCTS

## IDEAL FOR OIL AND GAS AND FARM EQUIPMENT APPLICATIONS

Equipment used in the oil and gas and agricultural industries must be able to withstand high levels of corrosion and heat. Drill rods, shafts, tubes, couplings, cutter bars, augers, cylinders and related components are especially vulnerable to the effects of wear and corrosion, and must be treated specially to maximize efficiency. To meet this challenge, **AMETEK** has engineered alloys designed specifically for *hardfacing*.

**Hardfacing** is a process of spraying and fusing metal powder onto a work piece or substrate to give it a specific hardness, wear resistance or corrosion resistance properties. This process requires metal powder particles with special properties. **AMETEK** powders are engineered to have the precise size, spherical shape, and low oxygen content required for optimal thermal spraying characteristics. In addition, our thermal spray powders are available in a wide variety of alloys to give the work piece its finished qualities-whether it's good machinability, abrasion resistance, corrosion resistance, ductility or high tensile strength.

**AMETEK** metal powders are produced under the strictest quality control procedures, and tested in accordance with standard MPIF practices. This rigorous testing ensures uniform particle sizes and compositions with unmatched lot-to-lot consistency.



*Thermal  
Spray-Coated  
Coupler*

### ALSO AVAILABLE:

- Titanium
- Nickel base Alloys  
Nickel-Chrome-Boron Systems  
– AMS 4775, 4776, 4777, 4778, 4779  
– RC Hardness 15-65
- Copper-Nickel
- Nickel-Chrome Molybdenum
- Cobalt
- Aluminide
- Stainless Steel
- Aluminum Bronze

### *Powders for all torches:*

HVOF, plasma spray, Jet Kote®, spray and fuse, and puddle torch.

ALLOY	C	CR	FE	NI	B	SI	CU	MO	CO	RC. HARDNESS	MELT TEMP (F°)
PF20	.03	--	1.5	BAL	1.5	2.5	--	--	--	12-20	2000
PF25	.06	--	1.5	BAL	1.5	3.5	--	--	--	20-30	1975
PF35	.05	10.5	2.0	BAL	2.0	3.3	--	--	--	32-40	1925
PF40	.30	7.5	1.5	BAL	1.4	4.0	--	--	--	40-48	1925
PF50	.65	14.0	4.2	BAL	2.8	3.8	--	--	--	48-54	1900
PF55	.65	15.0	4.5	BAL	3.3	4.0	3.5	3.5	--	50-60	1900
PF60	.90	16.5	4.5	BAL	3.3	4.3	--	--	--	56-62	1900
316L	.03	17.0	BAL	12.0	--	0.8	--	2.5	--	Rb78	2525
80/20	--	20.0	--	80.0	--	--	--	--	--	--	--
PCN38	--	--	0.4	38.0	--	--	61.5	--	--	Rb60	2400
*PHAC	.05	15.5	8.0	BAL	--	0.8	--	16.0	--	--	--
*PI600	.02	14.0	10.0	BAL	--	1.0	--	--	--	Rb74	2600
*PM400	.02	--	--	66.5	--	0.5	32.5	--	--	--	--

\*PHAC is AMETEK's equivalent to HASTELLOY C. HASTELLOY is a Cabot Corporation trademarked product. PI600 is AMETEK's equivalent to INCONEL 600. INCONEL is an International Nickel Company, Inc. trademarked product. PM400 is AMETEK's equivalent to MONEL 100. MONEL is an International Nickel Company, Inc. trademarked product. Jet Kote® is a Stoodly Deloro Stellite, Inc. registered trademarked product.

*Custom and proprietary powders available upon request.*

# A Platform of Solutions

**AMETEK Specialty Metal Products (SMP)** can provide you with customized or standard solutions using:

- Metal Strip
  - Engineered Shaped Components (ESC)
  - Specialty Wire Products
  - Master Alloys
- Titanium Powders
  - Metal Alloy Powders
  - Clad Metals

**AMETEK SMP** is a pioneer in specialty metals with more than 40 years of experience and numerous patents in technically advanced metallurgical materials. A world leader in metal powder, strip, wire and bonded products, **AMETEK SMP** produces stainless steel and nickel clad alloys as well as stainless steel, cobalt and nickel alloy powders. It is also a leader in metal strip, specialty shaped and electronic wire, and advanced metal matrix composites used in thermal management applications.

**AMETEK Specialty Metal Products** is a unit of AMETEK, Inc. (NYSE: AME), a global leader in electronic instruments and electromechanical devices with colleagues at numerous manufacturing, sales and service locations in the United States and in many other countries around the world.

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