

# Inco Type 270 PM Nickel Powder for Powder Metallurgy

## Inco Type 270 PM Powder:

Type 270 PM nickel powder is a fine, high purity, particle developed and produced by Inco carbonyl technology. The powder is three dimensional, chain-like network of fine particles produced to very tight physical tolerances.

## Applications

### Press and Sinter P/M parts:

- Type 270 PM is used to provide increased mechanical properties in nickel steels and improved dispersion and dimensional control in low alloy steel parts.

### Hard Metals and Diamond Tooling:

- Type 270 PM is used as a binder metal by the hard metals and diamond tool industries.

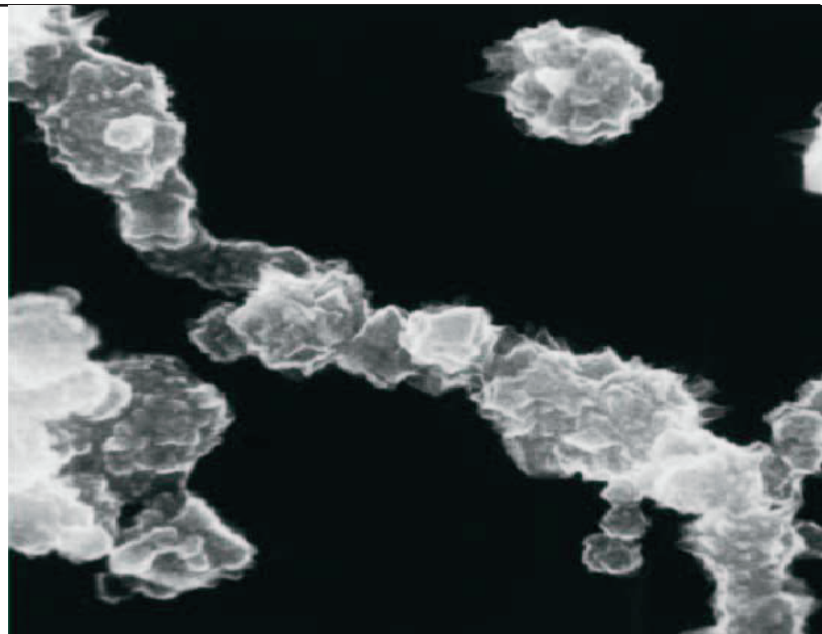
### Porous Metal Structures:

- Type 270 PM's unique three dimensional structure can be loose sintered to form nickel filters.

### Advantages of Type 270 PM Nickel Powder:

- Promotes shrinkage in P/M steels leading to higher density parts.
- Provides improved strength and hardenability when used as an alloying element in P/M parts.
- Increased dimensional control of Fe/Cu alloys during sintering.
- Improves fatigue properties of P/M parts.
- Increased diffusion in the steel matrix yields nickel-rich phases resulting in high ductility and toughness.
- In tungsten and tungsten carbide applications, Type 270 PM encapsulates the higher melting point particle and prevents particle-to-particle contact during sintering.
- Enhances ductility and corrosion resistance in hard metal and diamond tooling applications.

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## TYPICAL ANALYSIS

### Physical Properties:

Particle Size (Fisher Sub-Sieve Sizer)	2.2 - 3.3 $\mu\text{m}$
Particle Size (Malvern Laser Diffraction)	15 - 20 d50
Bulk Density (Scott Volumeter)	0.6 - 0.8 g/cm <sup>3</sup>

### Chemistry:

Carbon	600 to 1000 ppm
Oxygen	600 to 1000 ppm
Iron	<20 ppm
Sulfur	1 ppm

### Inco Special Products

- We are a business unit of Inco Limited, the world's leading nickel company.
- Special nickel products are produced with nickel from our own mines.
- We operate on a world wide basis with a strong record of supply and quality reliability.
- Nickel powder is produced at two ISO certified refineries. Each batch is traceable from refinery to customer delivery.
- We have over 30 years experience supplying the P/M and battery industries.
- We maintain a full service laboratory to support new product development and customer service.
- We are eager to discuss new products and new applications with potential customers.

This product is a part of a complete range of Inco Special Nickel Products. The range includes: fine and extra fine nickel powders of many different morphologies, nickel coated graphite particles, INCOFOAM™ high porosity nickel foam, nickel oxides and nickel

**INCO** **special products**

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