

**METAL POWDERS For**  
Diamond Tool, Hard Metal, Powder Metallurgy, MIM,  
Special Alloys, Aerospace, Colour Ceramic

**Manufacturers**

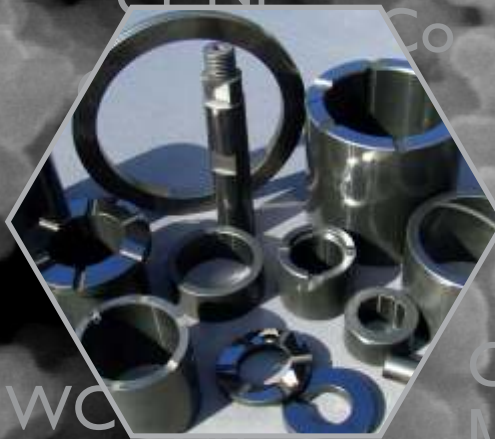
- Cobalt Metal Powder
- Nickel Metal Powder
- Chromium Metal Powder
- Tungsten Metal Powder
- Tungsten Carbide
- Manganese Metal Powder
- Pre Alloyed Multi Metal Powder

27  
**Co**  
Cobalt  
58.933195

28  
**Ni**  
Nickel  
58.6934

74  
**W**  
Tungsten  
183.84

**WC**  
Tungsten  
Carbide  
195.851



**JAYESH GROUP**  
A Name that Ensures Trust



**JAYESH GROUP**

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Established in 1967, **JAYESH GROUP™** is a proverbial name for providing precise quality raw material for Diamond Tool, Hard Metal, Powder Metallurgy, MIM, Special Alloys, Aerospace, Colour Ceramic, Welding Electrodes, Flux Cored Wire, Wear Plates, Foundries & Steel Plants. For its impeccable quality adherence and services, the below mentioned companies under **JAYESH GROUP™** are ISO 9001 : 2008 Certified:

▪ **JAYESH INDUSTRIES LTD.**

▪ **JAYESH TRADING CO.**

Fully equipped to deliver sizeable orders at the shortest notices, JAYESH GROUP's quality checks ensure optimum product standards. Moreover, JAYESH GROUP's dedicated and experienced marketing team works in tandem with the customers – which in turn ensures a hassle free procurement of critical raw material as per required specifications.



### **Committed R & D Setup for Relentless Innovations**

JAYESH GROUP's R & D facilities are equipped with latest and sophisticated equipment and highly skilled manpower. In order to maintain the quality of products, all raw materials and finished goods are thoroughly tested. All the supplies from the company are necessarily accompanied by Test Certificate so as to understand the exact chemical composition.

### **Activites**

- Manufacturing of Metal Powders by Hydrometallurgy Process.
- Manufacturing of Low Carbon Noble Ferro Alloys.
- Grinding and Pulverizing of Ferro Alloys, Metals and Minerals.
- Stabilization of Ferro Alloys and Metal Powders.

### **Product Supplied across the span of Industries**

- Diamond Tool
- Hard Metal
- Powder Metallurgy
- MIM
- Special Alloys
- Aerospace
- Colour Ceramic
- Automotive Companies
- Glass and Allied Industries
- Welding Electrodes
- Wear Plate Manufactures
- Flux Cored Wires
- Steel Plants
- Defense
- Foundries
- Railways



## Chemical Analysis:

Elements	Unit	UF Grade	Testing Method
Co	%	99.80 Min (Excluding Oxygen)	AAS
O	%	0.60	AAS
C	%	0.03	Leco
Ni	ppm	50	AAS
Cu	ppm	50	AAS
Fe	ppm	80	AAS
Ca	ppm	80	AAS
Mg	ppm	80	AAS
Pb	ppm	80	AAS
Zn	ppm	50	AAS
Cd	ppm	50	AAS
Mn	ppm	50	AAS
Na	ppm	80	AAS
Al	ppm	50	Leco
Li	ppm	50	AAS
Cr	ppm	80	AAS
Si	ppm	80	AAS
S	ppm	80	Leco
Grain Size	μ	0.8 to 1.00	FSSS
D50	μ	8	Laser Particle Analyser
AD	g/cm <sup>3</sup>	0.9 to 1.1	CARNEYS

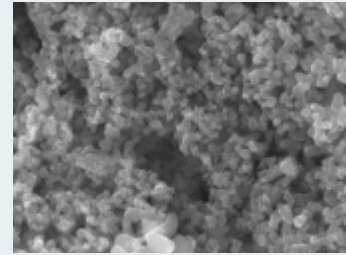
## Main Applications:

1. Cemented Carbide Cutting Tools  
(Hard Metal Industries)
2. Diamond Tool Industries
3. Metal Injection Moulding
4. Powder Metallurgy
5. Electronic Industries

## Characteristics:

- Consistent Quality
- Stable hardness in wide range of hot pressing Temperature
- No reactivity towards Diamond while sintering
- Availability in convenient vacuum packing

## Morphology:



**Ultrafine Grade**

Superfine Spheroidal and rod shape Cobalt powder with narrow particle distribution can be used for Hardmetal Industries & Diamond Tool applications.

## Temperature Vs Hardness Table for Ultrafine Grade Cobalt Powder:

Temperature Centigrade	Hardness HRB
700	99.2
750	100
800	102
850	107
900	108 to 109
950	107
1000	106

## Hot Pressing Characteristics for Diamond Tool applications :

**Pressure** : 350 kg/Cm .sq.  
**Time** : 5 Mins.  
**Atmosphere** : Air

## Packing:

25 to 50 kgs : Metal Drums with inner Silver foil Vacuum packed bags

1 kg to 5 kgs : Silver foil packing with inner LDPE bag vacuum packed.

## MSDS:

Material Safety Data Sheet & COA will be provided with each supply.

*Jayesh Industries Ltd. believes that the information in this Technical Data Sheet is accurate. However, Jayesh Industries Ltd. makes no express or implied warranty as to the accuracy of such information and expressly disclaims any liability resulting from reliance on such information.*

## Chemical Analysis:

Elements	Unit	EF Grade	Testing Method
Co	%	99.80 Min (Excluding Oxygen)	AAS
O	%	0.50	AAS
C	%	0.03	Leco
Ni	ppm	30	AAS
Cu	ppm	20	AAS
Fe	ppm	50	AAS
Ca	ppm	50	AAS
Mg	ppm	40	AAS
Pb	ppm	50	AAS
Zn	ppm	20	AAS
Cd	ppm	20	AAS
Mn	ppm	20	AAS
Na	ppm	50	AAS
Al	ppm	30	Leco
Li	ppm	10	AAS
Cr	ppm	50	AAS
Si	ppm	50	AAS
S	ppm	50	Leco
Grain Size	μ	1.1 to 1.50	FSSS
D50	μ	10	Laser Particle Analyser
AD	g/cm <sup>3</sup>	0.90 to 1.3	CARNEYS

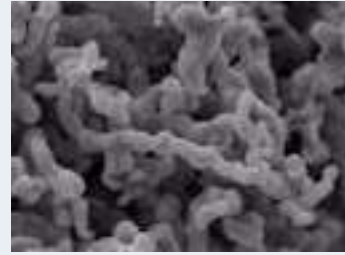
## Main Applications:

1. Cemented Carbide Cutting Tools  
(Hard Metal Industries)
2. Diamond Tool Industries
3. Metal Injection Moulding
4. Powder Metallurgy
5. Electronic Industries

## Characteristics:

- Consistent Quality
- Stable hardness in wide range of hot pressing Temperature
- No reactivity towards Diamond while sintering
- Availability in convenient vacuum packing

## Morphology:



**Extrafine Grade**

Superfine Spheroidal and rod shape Cobalt powder with narrow particle distribution can be used for Hardmetal Industries & Diamond Tool applications.

## Temperature Vs Hardness Table for Extrafine Grade Cobalt Powder:

Temperature Centigrade	Hardness HRB
650	97
750	99 to 100
800	101 to 102
850	103 to 106
900	107
950	106

## Hot Pressing Characteristics for Diamond Tool applications :

**Pressure** : 350 kg/Cm .sq.  
**Time** : 5 Mins.  
**Atmosphere** : Air

## Packing:

25 to 50 kgs : Metal Drums with inner Silver foil Vacuum packed bags

1 kg to 5 kgs : Silver foil packing with inner LDPE bag vacuum packed.

## MSDS:

Material Safety Data Sheet & COA will be provided with each supply.

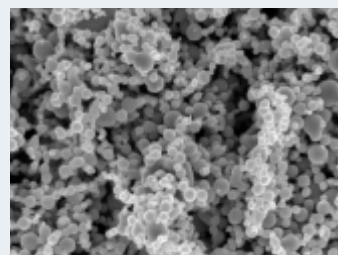
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## Chemical Analysis:

Elements	Unit	Specification	Testing Method
Ni	%	99.88 Min (Excluding Oxygen)	AAS
H2 Loss	%	0.60	H2 Loss Determinator
Co	ppm	50	AAS
Cu	ppm	30	AAS
Fe	ppm	50 to 80	AAS
Ca	ppm	80	AAS
Mg	ppm	80	AAS
Na	ppm	50 to 80	AAS
Zn	ppm	50	AAS
Al	ppm	40	AAS
Pb	ppm	30	AAS
Mn	ppm	30	AAS
Si	ppm	10	AAS
S	ppm	50	Leco
C	ppm	200	Leco
Li	ppm	10	AAS
Cr	ppm	40	AAS
Ph	ppm	10	AAS
Grain Size *	μ	0.9 to 2.5	FSSS
D50	μ	7 to 13	Laser Particle Analyser
App. Density	g/cm <sup>3</sup>	0.8 to 1.7	CARNEYS

\*Higher Grain size can be provided on Customer's Specific demand.

## Morphology:



**Nickel Metal Powder**

Rod shape & Irregular particle shape Nickel powder available for Powder Metallurgy, Hard Metal & Diamond Tool applications.

## Main Applications:

1. Battery Industries
2. Cemented Carbide Cutting Tools (Hard Metal Industries)
3. Powder Metallurgy
4. Special alloy
5. Diamond Tool Industries
6. Chemical processing of Nickel
7. Catalyst

## Packing:

25 to 50 kgs : Metal Drums with inner Silver foil Vacuum packed bags

1 kg to 5 kgs : Silver foil packing with inner LDPE bag vacuum packed.

## MSDS:

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## Chemical Analysis:

Elements	Unit	Specification	Testing Method
WC	%	99.9 Min	AAS
TC	%	6.15	Leco
FC	%	0.04	Leco
CC	%	6.11	Leco
O	%	0.08	Leco
Si	%	0.007	AAS
Mg	%	0.002	AAS
Al	%	0.002	AAS
K	%	0.0015	AAS
Na	%	0.0017	AAS
Ca	%	0.002	AAS
S	%	0.002	Leco
Mo	%	0.01	AAS
Fe	%	0.005	AAS
<b>Physical Properties</b>			
Grain Size	μ	2 – 20	FSSS
App. Density	g/cm <sup>3</sup>	2.4 – 7.8	CARNEYS

## Main Applications:

1. Cemented Carbide Cutting Tools (Hard Metal Industries)
2. Diamond Tool Industries
3. Rock Tool
4. Welding Hardfacing Electrodes

## Packing:

25 to 50 kgs : Metal Drums with inner Silver foil Vacuum packed bags

1 kg to 5 kgs : Silver foil packing with inner LDPE bag vacuum packed.

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**Chemical Analysis:**

Elements	Unit	Specification	Testing Method
W	%	99.90 Min	AAS
O	%	0.06	Leco
Al	ppm	10	AAS
Bi	ppm	5	AAS
Cd	ppm	5	AAS
Ca	ppm	10	AAS
C	ppm	80	Leco
Cr	ppm	10	AAS
Co	ppm	10	AAS
Cu	ppm	5	AAS
Fe	ppm	50	AAS
Pb	ppm	5	AAS
Mg	ppm	10	AAS
Mo	ppm	20	AAS
Ni	ppm	20	AAS
N	ppm	300	Leco
Si	ppm	25	AAS
Na + K	ppm	20	AAS
S	ppm	10	Leco
Sn	ppm	5	AAS
Ti	ppm	5	AAS
V	ppm	10	AAS
As	ppm	10	AAS
<b>Physical Properties</b>			
Grain Size	μ	2 to 12	FSSS
App. Density	g/cm <sup>3</sup>	1.9 to 5.9	CARNEYS
Tap Density	g/cm <sup>3</sup>	2.4 to 8.7	Tap Density Meter

**Main Applications:**

1. Hardmetal Manufacturing
2. Diamond Tool Industries
3. Hard alloy Industries
4. Welding Hardfacing Electrodes
5. Diamond Scaives industries

**Packing:**

- 25 to 50 kgs : Metal Drums with inner Silver foil Vacuum packed bags
- 1 kg to 5 kgs : Silver foil packing with inner LDPE bag vacuum packed.

**MSDS:**

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# GLOBAL REACH





## AFFILIATION OF JAYESH GROUP™ OF COMPANIES

- AMERICAN WELDING SOCIETY (AWS)
- BOMBAY CHAMBER OF COMMERCE & INDUSTRY (BCCI)
- BOMBAY METAL EXCHANGE LTD. (BME)
- CONFEDERATION OF INDIAN INDUSTRY (CII)
- COUNCIL FOR FAIR BUSINESS PRACTICES (CFBP)
- ENGINEERING EXPORT PROMOTION COUNCIL (EEPC)
- MINOR METAL TRADE ASSOCIATION (MMTA)
- INTERNATIONAL POWDER METALLURGY DIRECTORY (IPMD)
- INDIAN MERCHANTS CHAMBER (IMC)
- THANE BELAPUR INDUSTRIES ASSOCIATION (TBIA)
- THE INDIAN FERRO ALLOY PRODUCERS ASSOCIATION (IFAPA)
- THE INSTITUTE OF INDIAN FOUNDRYMEN (IIF)

### AWARDS



Western Region  
**Star Performer** in Product  
Group 2009-10



Western Region  
**Star Performer** in Product  
Group 2010-11



### JAYESH INDUSTRIES LTD.

(ISO 9001:2008 Certified Company)  
(A Government of India Recognized Export House)

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### JAYESH TRADING CO.

(ISO 9001:2008 Certified Company)

