



INNOMET POWDERS

Ferrous **or** Non-Ferrous
Metal **or** Alloy
Spherical **or** Irregular
Fine **or** Coarse
Oxygen Free **or** High Oxide

You need it ? We make it !

Powders Available

Stainless Steel (316 L,304)	Bronze
Diamond Tool Matrix	Copper
Nickel Aluminide	Tin

Applications of Atomized Powders

Sintered Products	Injection Moulding	Detonators	Batteries
Diamond Tools	Welding	Pyro-techniques	Magnets
Polymer Filtration	Brazing	Decorative Flakes	Dental Amalgams
Thermal Spraying	Soldering	Paints	Chemical Usage

Unique facility in the country to develop various kinds of atomized metal/alloy powders and also various Powder Metallurgy operations under able guidance.

Factory : PADMASREE ENTERPRISES, B-31, B.H.E.L, Ancillary Industrial Estate,
Ramothandrapuram, Hyderabad -502032, AP India.
Ph : +91-40- 30911600, 23021726; Fax : +91-40-23024647
E - mail : info@innomet.net, pi@sol.net.in

www.innomet.net

STAINLESS STEEL (316L)

Typical Sieve Analysis (22/52#)		
Mesh(BSS)	Microns	Percentage
+22	>710	10% max
-52	<300	15 % max
-72	<212	1.0 %
-150	<106	0.1 % max

Typical Sieve Analysis (52/85#)		
Mesh(BSS)	Microns	Percentage
+36	>425	1.0% max
+52	>300	10 % max
-85	<180	15 % max
-100	<150	1.0 % max

Typical Sieve Analysis (85/120#)		
Mesh(BSS)	Microns	Percentage
+52	>300	1.0% max
+72	>212	15 % max
-100	<150	20 % max
-150	<106	2.0 % max

Physical			
	(22/52#)	(52/85#)	(85/120#)
Apparent Density (g/cc)	3.0-3.2	3.3-3.5	3.4-3.6
Flow Rate (sec/50g)	Poor	36-38	29-31

Chemical			
Element	(22/52#)	(52/85#)	(85/120#)
Cr	16-18%	16-18%	16-18%
Ni	10-14%	10-14%	10-14%
Mo	2-3%	2-3%	2-3%
C	0.03 max	0.03 max	0.03 max
Si	1.0 % max	1.0 % max	1.0 % max
Mn	2.0% max	2.0% max	2.0% max
Fe	Rest	Rest	Rest
Oxygen	0.2% max	0.2% max	0.2% max

CUSTOMISED POWDERS CAN BE SUPPLIED

Specifications given are not to be considered as legally binding

STAINLESS STEEL (304)

Typical Sieve Analysis (-85#)		
Mesh(BSS)	Microns	Percentage
+85	>180	5.0 % max
-350	<45	15-20 %

Physical		
	-85 #	-350 #
Apparent Density (g/cc)	3.10-3.15	3.90-4.00
Flow Rate (sec/50g)	26-28	20-22

Chemical	
Element	Wt%
Cr	18-20%
Ni	8-12%
C	0.08% max
Si	1.0% max
Mn	2.0% max
Fe	Rest
Oxygen	0.2% max

TYPICAL APPLICATIONS:

- P/M components
- Appliance parts
- Exhaust system components
- Metal Injection Moulding
- Sintered filters
- Automobile components
- Stainless steel flakes

CUSTOMISED POWDERS CAN BE SUPPLIED

Specifications given are not to be considered as legally binding

DIAMOND TOOL MATRIX POWDER

Typical Sieve Analysis (-85#)		
Mesh(BSS)	Microns	Percentage
+85	>180	5.0 % max
-350	<45	20-30 %

Physical	
	-85 #
Apparent Density (g/cc)	3.98-4.00
Flow Rate (sec/50g)	23-24

Chemical	
Element	Wt%
Fe	50-60%
Cu	20-30%
Co	10-20% max
Sn	2-5% max

ADVANTAGES:

- Excellent metal distribution on much finer scale
- Higher homogeneity than premixed powders
- Minimal dimensional change
- Eliminates in-plant mixing
- Minimum batch to batch variation
- Higher protrusion and stronger diamond retention
- Enhanced tool life and performance

CUSTOMISED POWDERS CAN BE SUPPLIED

Specifications given are not to be considered as legally binding

COPPER

Typical Sieve analysis (-85#)		
Mesh(BSS)	Microns	Percentage
+85	>180	5.0 % max
-350	<45	35-50 %

Physical			
	-85#	-350#	-500#
Apparent Density (g/cc)	5.25-5.30	4.40-4.45	3.97-3.99
Flow Rate (sec/50g)	12-14	17-19	24-26

Chemical	
Element	Wt%
Cu	99% min
Others	0.75% max
Oxygen	0.15% max

TYPICAL APPLICATIONS:

- P/M Parts
- Resin Bonded Friction Materials
- Self Lubricating Bearings
- Alternator Brushes
- Catalyst Applications
- Friction Components
- Electrical parts
- Chemical formulations

CUSTOMISED POWDERS CAN BE SUPPLIED

Specifications given are not to be considered as legally binding

LOW APPARENT DENSITY COPPER

Typical Sieve analysis (-85#)		
Mesh(BSS)	Microns	Percentage
+85	>180	5.0 % max
-350	<45	15-20 %

Physical		
	-85#	-350#
Apparent Density (g/cc)	1.3-1.4	1.5-1.7
Flow Rate (sec/50g)	76-78	18-20

Chemical	
Element	Wt%
Cu	98% min
Others	2% max
Oxygen	0.25% max

CUSTOMISED POWDERS CAN BE SUPPLIED

Specifications given are not to be considered as legally binding

COPPER OXIDE

Typical Sieve analysis		
Mesh(BSS)	Microns	Percentage
+30	>500	10 % max
52/150	106-300	70-80 %
-150	<106	10-20%

Chemical	
Element	Wt%
Cu purity	99% min
Others	1% max

TYPICAL APPLICATIONS:

- Antifouling paints
- Reagents in chemical reactions
- Catalysts in the production of silicone compounds
- Hydrogen degassing of non-ferrous melts

CUSTOMISED POWDERS CAN BE SUPPLIED

Specifications given are not to be considered as legally binding

BRONZE

Typical Sieve Analysis (-85#)		
Mesh(BSS)	Microns	Percentage
+85	>180	5.0 % max
-350	<45	35-50 %

Physical			
	-85#	-350#	-500#
Apparent Density (g/cc)	5.25-5.30	4.92-4.95	3.96-3.98
Flow Rate (sec/50g)	15-17	26-28	30-32

Chemical		
Element	90/10	85/15
Copper	89-91	84-86
Tin	9-11	14-16
Others	0.5% Max	0.5% max
Oxygen	0.1% Max	0.1% m ax

TYPICAL APPLICATIONS:

- **Filters**
- **Metal impregnated plastics**
- **Impregnated metal matrix bearings**
- **Shaped explosive charges**
- **Metal bonded diamond cutting and grinding tools**
- **Flame arrestors**
- **Sound attenuation**
- **Industrial coatings**
- **Resin bonded friction materials**
- **Metal spraying**
- **Cold casting**
- **Decorative surfaces.**

CUSTOMISED POWDERS CAN BE SUPPLIED

Specifications given are not to be considered as legally binding

NICKEL ALUMINIDE

Typical Sieve Analysis (-85#)		
Mesh(BSS)	Microns	Percentage
+85	>180	5.0 % max
-350	<45	5-10 %

Physical	
	-85#
Apparent Density (g/cc)	2.50-2.65
Flow Rate (sec/50g)	36-38

Chemical		
	I	II
Element	Wt%	Wt%
Aluminum	5	50
Nickel	Rest	Rest
Others	0.5% max	0.5% max
Oxygen	0.15% max	0.15% max

TYPICAL APPLICATIONS:

- Bond coat for thermal barrier coatings
- Catalyst

CUSTOMISED POWDERS CAN BE SUPPLIED

Specifications given are not to be considered as legally binding

NICKEL-CHROMIUM

Typical Sieve Analysis		
Mesh(BSS)	Microns	Percentage
-350	<45	100 %

Physical	
	-350#
Apparent Density (g/cc)	4.12
Flow Rate (sec/50g)	20-22

Chemical	
Element	Wt%
Chromium	45
Silicon	0.5
Iron	0.35
Manganese	0.03
Carbon	0.08
Oxygen	0.2 max
Others	1 max
Nickel	Balance

TYPICAL APPLICATIONS:

- Cold spraying
- Hot spraying

CUSTOMISED POWDERS CAN BE SUPPLIED

Specifications given are not to be considered as legally binding

COPPER-ALUMINUM

Typical Sieve Analysis (-85#)		
Mesh(BSS)	Microns	Percentage
+85	>180	5.0 % max
-350	<45	5-15 %

Physical		
	-85#	-350#
Apparent Density (g/cc)	2.10	2.25
Flow Rate (sec/50g)	40-42	46-48

Chemical			
	I	II	III
Element	Wt%	Wt%	Wt%
Al	5	40	50
Cu	Rest	Rest	Rest
Others	0.5% max	0.5% max	0.5% max
Oxygen	0.15% max	0.15% max	0.15% max

TYPICAL APPLICATIONS:

- **Paints and pigments**
- **Specialty chemicals**

CUSTOMISED POWDERS CAN BE SUPPLIED

Specifications given are not to be considered as legally binding

COPPER-CHROMIUM

Typical Sieve Analysis (-85#)		
Mesh(BSS)	Microns	Percentage
+85	>180	5.0 % max
-350	<45	15-20 %

Physical		
	-85#	-350#
Apparent Density (g/cc)	4.75	4.2
Flow Rate (sec/50g)	12-14	22-24

Chemical	
Element	Wt%
Chromium	10%
Copper	Rest
Others	1.0% max
Oxygen	0.10% Max

TYPICAL APPLICATION:

- Master alloys

CUSTOMISED POWDERS CAN BE SUPPLIED

Specifications given are not to be considered as legally binding

COPPER-ZINC-ALUMINUM

Typical Sieve Analysis		
Mesh(BSS)	Microns	Percentage
+85#	>180	5% max
-350#	<45	35-50%

Physical	
	-85#
Apparent Density (g/cc)	2.06
Flow Rate (sec/50g)	40-42

Chemical	
Element	Wt%
Cu	55
Zn	40
Al	5 max
Oxygen	0.2 max

TYPICAL APPLICATION:

- **Paints and pigments**

CUSTOMISED POWDERS CAN BE SUPPLIED

Specifications given are not to be considered as legally binding

COPPER-TIN-ZINC

Typical Sieve Analysis		
Mesh(BSS)	Microns	Percentage
+85#	>180	5% max
-350#	<45	30-50%

Physical	
	-85#
Apparent Density (g/cc)	3.68
Flow Rate (sec/50g)	20-22

Chemical	
Element	Wt%
Cu	87
Sn	10.5
Zn	2.5
Oxygen	0.15 max

TYPICAL APPLICATION:

- **Paints and pigments**

CUSTOMISED POWDERS CAN BE SUPPLIED

Specifications given are not to be considered as legally binding