Carbonyl Iron Powder

Chemical Analysis		CIP 1-1	CIP 1-2	CIP 1-3
Test Name	**Unit**	**Specification**		
Fe (Iron)	wt%	≥98.00	≥98.00	≥98.00
C (Carbon)	wt%	≤0.80	≤0.80	≤0.80
N (Nitrogen)	wt%	≤0.80	≤0.80	≤0.80
O (Oxygen)	wt%	≤0.40	≤0.40	≤0.40
Physical Analysis				
Bulk Density	g/cm³	≥2.2	≥2.5	≥2.5
Tap Density	g/cm³	≥4.0	≥3.9	≥3.8
Particle Size Distribution				
D10	μm	≥0.5	≥1.5	≥2.0
D50	μm	≤3.5	3.5-4.5	4.5-7.0
D90	μm	≤9.0	≤12.0	≤18.0

Carbonyl Iron Powder

Chemical Analysis		CIP 2-1	CIP 2-2	CIP 2-3
Test Name	**Unit**	**Specification**		
Fe (Iron)	wt%	≥99.5	≥99.5	≥99.5
C (Carbon)	wt%	≤0.05	≤0.05	≤0.05
N (Nitrogen)	wt%	≤0.01	≤0.01	≤0.01
O (Oxygen)	wt%	≤0.30	≤0.30	≤0.25
Physical Analysis				
Bulk Density	g/cm³	≥2.2	≥2.5	≥2.5
Tap Density	g/cm³	≥3.8	≥3.8	≥3.6
Particle Size Distribution				
D10	μm	≥0.5	≥1.5	≥2.5
D50	μm	2.0-4.5	4.5-7.0	7.0-10.0
D90	μm	≤12.0	≤18.0	≤25.0

Carbonyl Iron Powder

Magnetic Properties		CIP 4-4	CIP 4-5
Test Name	**Unit**	**Specification**	
Magnetic Permeability	μ	25.0-36.0	36.0-43.0
Chemical Analysis			
Fe (Iron)	wt%	≥99.5	≥99.5
C (Carbon)	wt%	≤0.05	≤0.05
N (Nitrogen)	wt%	≤0.01	≤0.01
O (Oxygen)	wt%	≤0.80	≤0.60
Physical Analysis			
Bulk Density	g/cm³	≥2.5	≥2.5
Tap Density	g/cm³	≥3.8	≥3.8
Particle Size Distribution			
D10	μm	≥0.5	3.0-5.0
D50	μm	≥1.5	5.0-7.0
D90	μm	≤12.0	≤18.0

Carbonyl Iron Powder

Magnetic Properties		CIP 4-4 L	CIP 4-5 L
Test Name	**Unit**	**Specification**	
Magnetic Permeability	μ	25.0-36.0	36.0-43.0
Q Factor (Peak at 0-10MHz)	-	110-130	100-120
Insulation Resistance (MΩ/100V)	MΩ	≥1000	≥1000
Dielectric Breakdown Voltage (V, I≤0.5mA)	V	≥400	≥400
Inductance Drop under DC Bias (10A)	%	≤2.0	≤2.0
Physical Analysis			
Bulk Density	g/cm^3	≥2.5	≥2.5
Tap Density	g/cm^3	≥3.8	≥3.8
Particle Size Distribution			
D50	μm	3.0-5.0	5.0-7.0

Carbonyl Iron Powder

Chemical Analysis		**CIP 5-0 L**	**CIP 5-1 L**	**CIP 5-2 L**
Test Name	**Unit**	**Specification**		
Fe (Iron)	wt%	≥98.00	≥98.00	≥98.00
C (Carbon)	wt%	≤0.80	≤0.80	≤0.80
N (Nitrogen)	wt%	≤0.80	≤0.80	≤0.80
O (Oxygen)	wt%	≤0.60	≤0.60	≤0.60
Physical Analysis				
Bulk Density	g/cm³	≥2.2	≥2.0	≥2.5
Tap Density	g/cm³	≥4.0	≥3.9	≥3.9
Particle Size Distribution				
D10	μm	≥0.5	≥1.5	≥2.0
D50	μm	≤3.5	3.5-4.5	4.5-7.0
D90	μm	≤9.0	≤12.0	≤18.0