



# KRN ALLOYS PVT. LTD.

## PRODUCT DATA SHEET

Grade: KIPH 100.29

Product Type: Water Atomized Iron Powder  
(High Density Grade)

Category: Atomized Ferrous Powder

### 1. PRODUCT DESCRIPTION

KIPH 100.29 is a high-density water atomized iron powder designed for powder metallurgy applications requiring improved packing behavior, higher green density, and enhanced structural performance.

The grade is optimized for components where better compaction uniformity and dimensional stability are critical.

### 2. KEY CHARACTERISTICS

Property	Typical Value
Apparent Density	2.9 – 3.05 g/cc
Flow Rate (Hall)	25 – 30 sec/50g
Green Density @ 600 MPa	~7.10 g/cc
Oxygen (O <sub>2</sub> )	≤ 0.20 %

### 4. PHYSICAL PROPERTIES

Property	Description
Particle Shape	Irregular
Production Route	Water Atomized
Compressibility	Very Good
Packing Behavior	Improved compared to standard grades

### 3. CHEMICAL COMPOSITION (%)

Element	Typical (%)
Fe (Iron)	Balance
C (Carbon)	≤ 0.01
O (Oxygen)	≤ 0.20
Others	Controlled within standard manufacturing limits to ensure consistent metallurgical performance

### 5. PARTICLE SIZE DISTRIBUTION (PSD)

Fraction	Typical Distribution (%)
+100 mesh (>150 μm)	0 – 2
-100 +200 mesh	8 – 18
-200 +325 mesh	50 – 65
-325 mesh (<45 μm)	12 – 20

\* Particle size distribution is optimized to support improved packing efficiency and higher green density during compaction.

### 6. TYPICAL APPLICATIONS

- High-density structural PM components
- Automotive load-bearing parts
- Gears, sprockets, and precision sintered components
- Applications requiring improved density and strength

### 7. ADVANTAGES

- Improved packing density compared to standard grades
- Better compaction uniformity
- Enhanced dimensional stability after sintering
- Suitable for higher performance PM applications
- Reliable under demanding production conditions

### 8. PROCESSING GUIDELINES

- Recommended compaction pressure: 500 – 700 MPa
- Suitable for controlled sintering atmospheres
- Compatible with alloy additions for enhanced properties

### 9. PACKAGING & SUPPLY

- **Standard packing:** 25 kg bags / jumbo bags
- Custom packaging available upon request

### 10. DISCLAIMER

Values are typical and may vary depending on processing conditions and customer-specific requirements. This information is intended as a general guide and does not constitute a strict specification guarantee. Users are advised to evaluate the material for their specific intended use.