



# KRN ALLOYS PVT. LTD.

## PRODUCT DATA SHEET

Grade: **KSP 40.29**

Product Type: Sponge Reduced Iron Powder  
(Welding Grade)

Category: Sponge Reduced Powder

### 1. PRODUCT DESCRIPTION

**KSP 40.29** is a sponge reduced iron powder developed for welding consumables and metallurgical applications requiring high surface activity, controlled particle size distribution, and reliable blending characteristics.

The grade is particularly suited for welding flux systems, core wire formulations, and metallurgical processes where reactivity and consistent performance are essential.

### 2. KEY CHARACTERISTICS

Property	Typical Value
Apparent Density	2.2 – 2.6 g/cc
Flow Rate (Hall)	30 – 40 sec/50g
Moisture	≤ 0.15 %
Oxygen (O <sub>2</sub> )	≤ 0.35 %

👉 (Lower AD and higher oxygen vs atomized — correct for sponge route)

### 3. CHEMICAL COMPOSITION (%)

Element	Typical (%)
Fe (Iron)	Balance
C (Carbon)	≤ 0.05
O (Oxygen)	≤ 0.35
Others	Controlled within standard manufacturing limits

### 4. PHYSICAL PROPERTIES

Property	Description
Particle Structure	Porous / sponge-like
Production Route	Reduction process
Surface Area	High
Reactivity	High
Flow Behavior	Moderate

### 5. PARTICLE SIZE DISTRIBUTION (PSD)

Fraction	Typical Distribution (%)
+100 mesh (>150 μm)	2 – 8
-100 +200 mesh	25 – 40
-200 +325 mesh	30 – 45
-325 mesh (<45 μm)	10 – 20

\* Particle size distribution is controlled to ensure stable blending, appropriate reactivity, and consistent performance in welding consumables.

👉 (Slightly coarser + wider vs atomized — correct behavior)

### 6. TYPICAL APPLICATIONS

- Welding flux formulations
- Core wire filling materials
- Metallurgical blending applications
- Welding consumables

### 7. ADVANTAGES

- High surface activity for improved metallurgical reactions
- Suitable porosity for enhanced performance in flux systems
- Stable blending behavior with flux and alloy powders
- Reliable performance in welding consumables
- Adaptable for various metallurgical formulations

### 8. PROCESSING GUIDELINES

- Suitable for dry blending with flux and alloy systems
- Recommended storage in controlled humidity conditions
- Compatible with standard welding consumable manufacturing processes

### 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.