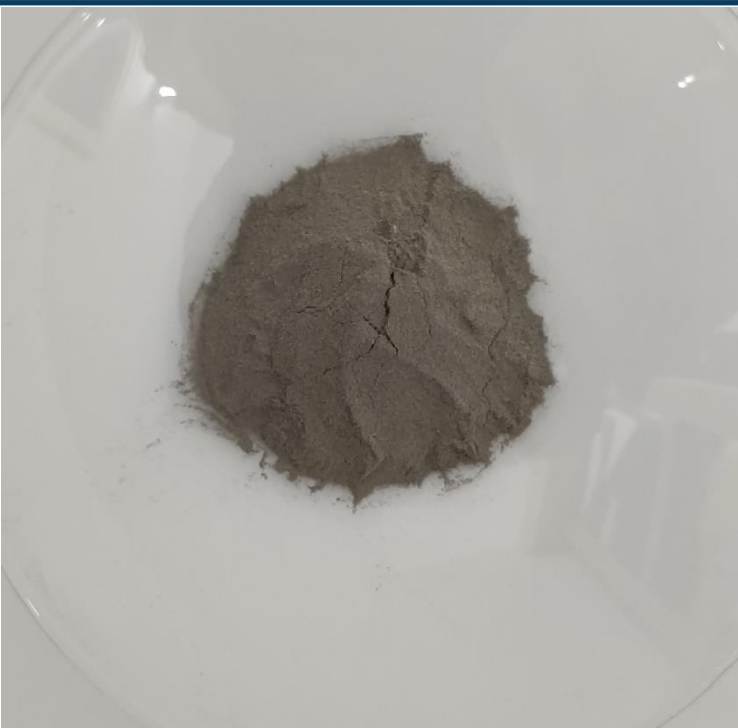
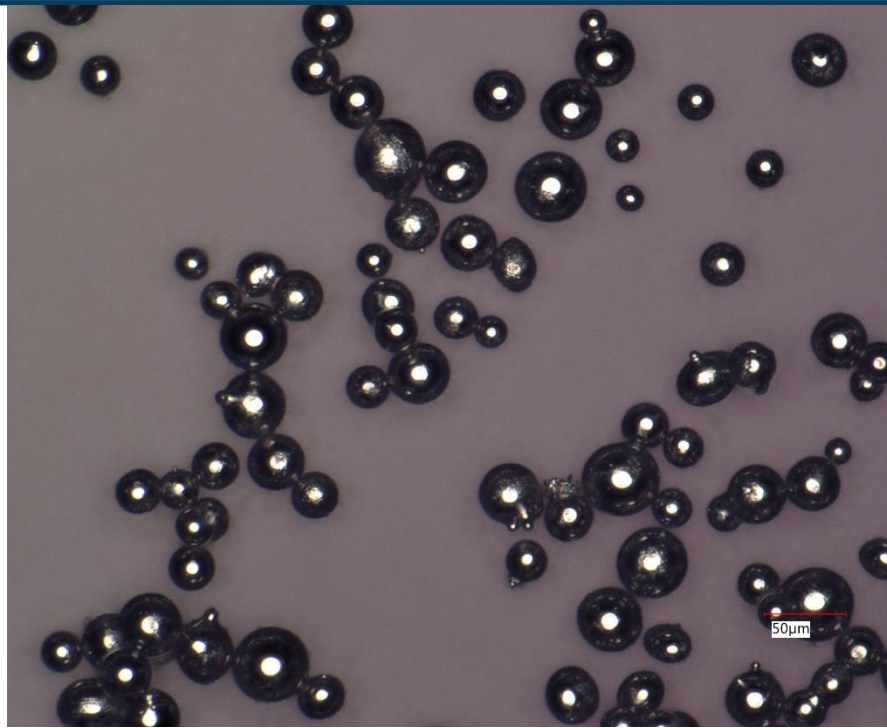




IntegriPowder™ Ni-Cr-B-Si Nickel-Based Self-Fluxing Alloy Powders



Ni-Cr-B-Si Alloy Powder Appearance



Spherical powder morphology

■ Introduction

IntegriPowder™ nickel-based self-fluxing alloy powders are engineered for high-performance surface protection in wear, erosion, corrosion, and thermal service environments. Manufactured with controlled chemistry, high powder sphericity, and excellent flowability, these powders produce dense, metallurgically bonded coatings for industrial rebuilding and hardfacing applications. Suitable for:

- 🔥 Flame Spray + Remelt
- ⚡ HVOF / HVOF
- 🔧 Laser Cladding
- ⦿ PTA Welding

Key Features

- ✓ Controlled spherical particle morphology
- ✓ Dense metallurgical bonding
- ✓ Controlled Ni-Cr-B-Si chemistry
- ✓ Excellent flowability
- ✓ Excellent wear and corrosion resistance
- ✓ Low-porosity coatings

■ Integrated Hardfacing Solution

IntegriPowder™ can also be used as a rebuilding or bonding layer before applying IntegriClad™ tungsten carbide welding ropes, providing improved metallurgical compatibility and enhanced hardfacing performance.



IntegriPowder™ Ni-Cr-B-Si Self-Fluxing Alloy Powder Series

Technical Overview & Material System

■ GENERAL DESCRIPTION

IntegriPowder™ nickel-based self-fluxing alloy powders are available in different hardness grades to provide optimized solutions for severe wear, corrosion, and thermal protection applications. Each grade is designed for specific service conditions, coating processes, and performance requirements.

■ Product Selection Guide

Product Code	Alloy Grade	Nominal Composition (wt.%) (Ni Base, Balance)	Hardness	Available Particle Size
<i>IP-NB60-XXXX</i>	<i>NiCrBSi 60</i>	<i>Ni-17Cr-4Fe-4Si-3.5B-C</i>	<i>HRC 60+</i>	<i>15–45 μm 20–53 μm 45–125 μm</i>
<i>IP-NB50-XXXX</i>	<i>NiCrBSi 50</i>	<i>Ni-11Cr-3Fe-4Si-2.5B-C</i>	<i>HRC 50+</i>	<i>15–45 μm 20–53 μm 45–125 μm</i>
<i>IP-NB45-XXXX</i>	<i>NiCrBSi 45</i>	<i>Ni-10Cr-3Fe-3.5Si-2.5B-C</i>	<i>HRC 45+</i>	<i>15–45 μm 20–53 μm 45–125 μm</i>
<i>IP-NB40-XXXX</i>	<i>NiCrBSi 40</i>	<i>Ni-10Cr-3Fe-3.5Si-1.5B-C</i>	<i>HRC 40+</i>	<i>15–45 μm 20–53 μm 45–125 μm</i>
<i>IP-NB35-XXXX</i>	<i>NiCrBSi 35</i>	<i>Ni-10Cr-3Fe-3Si-1.5B-C</i>	<i>HRC 35+</i>	<i>15–45 μm 20–53 μm 45–125 μm</i>

■ Powder Code Explanation

Example:	IP-NB60-1545
Code	Description
IP	IntegriPowder™
NB60	Nickel-Based Alloy Grade
1545	Particle Size Range (15–45 μm)
Particle Size Codes:	
Code	Particle Size
1545	15–45 μm
2053	20–53 μm
45125	45–125 μm

■ Typical Powder Characteristics

Property	Typical Value
Morphology	Spherical
Manufacturing Method	Gas Atomized spherical powder
Available Particle Sizes	15–45 / 20–53 / 45–125 μm
Hardness Range	35–60+ HRC
Alloy System	Ni-Cr-B-Si Self-Fluxing Alloy
Application Processes	Flame Spray, HVOF, HVAF, Laser Cladding, PTA

Note: Final coating properties depend on the selected deposition process, processing parameters, coating thickness, and substrate conditions.

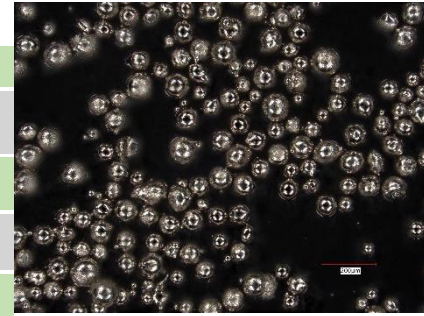


Applications & Surface Engineering Solutions

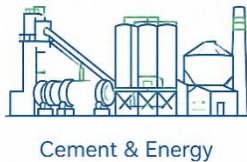
Recommended Applications

IntegriPowder™ Ni-Cr-B-Si alloy powders are engineered for high-performance surface protection of components exposed to severe wear, erosion, corrosion, and elevated-temperature environments.

Industry	Typical Components
Mining & Mineral Processing	Crushers, screens, wear plates, slurry components
Oil & Gas	Valves, pumps, sleeves, flow-control components
Cement & Energy	Rollers, shafts, material handling equipment
Steel Industry	Guides, rollers, tooling components
Manufacturing	Dies, molds, wear surfaces, repair applications



Spherical powder morphology
IP-NB40-45125



Process → IntegriPowder™ Powder Grade → Application

Process	Recommended Grades	Typical Powder Size	Typical Application
Flame Spray +Remelt	IP-NB35 to IP-NB60	45–125 µm	Wear-resistant rebuilds and repair applications
HVOF/HVAF	IP-NB50 to IP-NB60	15–45 µm	Dense coatings requiring high wear and erosion resistance
Laser Cladding	IP-NB35 to IP-NB45	45–125 µm	Precision coatings with low dilution and high bonding strength
PTA	IP-NB35 to IP-NB45	45–125 µm	Thick overlays and heavy-duty components

Note 1: Supplied in 1 and 5 kg packaging bottle.

Note 2: Powder particle size selection depends on the deposition process, equipment configuration, and required coating characteristics. Custom powder sizes are available upon request.

IntegriMat Surface Engineering Solution *IntegriPowder™ + IntegriClad™ Integrated Solution*



IP-NB40-45125 is recommended as a bonding and rebuilding layer before IntegriClad™ tungsten carbide hardfacing, improving wetting, metallurgical bonding, and transition compatibility between the steel substrate and carbide-rich overlay.