



IntegriClad™ Brazing Rod

Tungsten Carbide Composite Brazing Rod for Severe Wear Protection



Property	Typical Value
Carbide content	65 wt.%
Matrix	(Cu-34%Zn-11%Ni)
Application	Oxy-acetylene brazing
Particle size	1.6–8.0 mm

■ Introduction

IntegriClad™ Brazing Rod is high-performance tungsten carbide composite hardfacing consumable designed for localized wear protection of components exposed to severe abrasion, erosion, and impact conditions.

The rods consist of carefully selected cemented tungsten carbide grit metallurgically bonded within a high-performance brazing alloy matrix. The optimized carbide distribution provides excellent carbide retention, superior wear resistance, and reliable bonding with steel substrates.

Designed for oxy-acetylene brazing applications, IntegriClad™ Brazing Rod provides an efficient solution for extending component service life in mining, drilling, construction, and industrial wear applications.

■ Key Advantages

- ✓ **Extreme Abrasion Resistance**
Superior wear resistance with cemented tungsten carbide particles.
- ✓ **Superior Carbide Retention**
Reliable bonding and carbide retention with optimized matrix design.
- ✓ **Controlled Heat Input**
Suitable for repair and hardfacing applications requiring localized wear protection.
- ✓ **Versatile Wear Solution**
Available in different carbide particle sizes to match various wear conditions.
- ✓ **Controlled Carbide Distribution**

■ Typical Applications

- ✓ Mining and mineral processing equipment
- ✓ Drill tools and drilling components
- ✓ Excavator teeth and bucket components
- ✓ Crusher and grinding components
- ✓ Cutting edges and wear surfaces
- ✓ Agricultural and earth-moving tools



IntegriClad™ Brazing Rod

Technical Specifications & Product Selection Guide

Typical Material Characteristics

Property	Typical Value
Hard Phase	Cemented Tungsten Carbide (WC-Co)
Matrix Alloy	Cu-34%Zn-11%Ni (Nickel Silver) Brazing Alloy
Tungsten Carbide Content	60–70 wt.%
Cemented WC-Co Particle Hardness	1500-1800 HV0.1
Brazing Temperature	Subject to matrix alloy and substrate conditions. Approx. 950–1050°C (1742–1922°F)
Standard Rod Length	280 / 350 / 450 mm

IntegriClad™ Brazing Rod is also available in a self-fluxing version for applications requiring simplified processing and improved wetting during brazing. The self-fluxing matrix promotes excellent bonding and typically eliminates the need for a separate flux.

Product Selection Guide

Product Code	Matrix Alloy	Carbide Type	WC Particle Size	WC Content (wt.%)	Rod Diameter (mm)
IC-BR-NS-1632	Cu-34%Zn-11%Ni	Cemented WC-Co Grit	1/16-1/8 in. 1.6–3.2 mm	60–70%	Ø12 / Ø16 / Ø22
IC-BR-NS-3248	Cu-34%Zn-11%Ni	Cemented WC-Co Grit	1/8-3/16 in. 3.2–4.8 mm	60–70%	Ø12 / Ø16 / Ø22
IC-BR-NS-4864	Cu-34%Zn-11%Ni	Cemented WC-Co Grit	3/16-1/4 in. 4.8–6.4 mm	60–70%	Ø12 / Ø16 / Ø22
IC-BR-NS-6480	Cu-34%Zn-11%Ni	Cemented WC-Co Grit	1/4-5/16 in. 6.4–8.0 mm	60–70%	Ø12 / Ø16 / Ø22

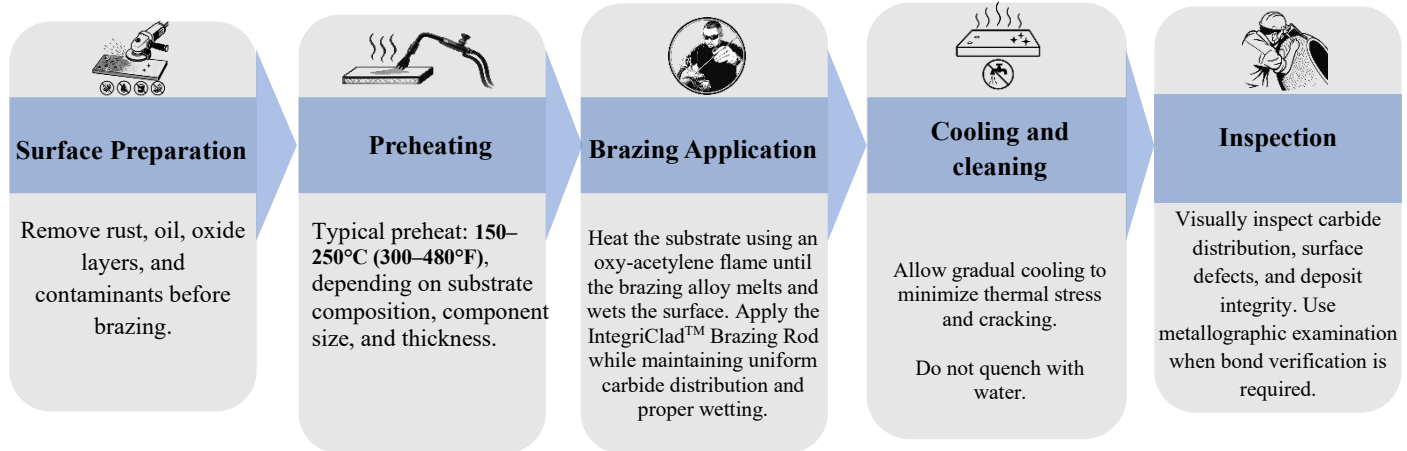
Product Coding System

Example:	IC-BR-NS-3248
Code	Description
IC	IntegriClad™
BR	Brazing Rod
NS	(Cu-34%Zn-11%Ni) Nickel Silver alloy Matrix
3248	Tungsten Carbide Particle Size (3.2–4.8 mm)



■ Processing Guidelines, Applications & Ordering Information

Recommended Brazing Procedure



Recommended Parameters



Item	Specification
Heat Source	Oxy-acetylene
Flame Type	Neutral to slightly reducing flame
Preheating Temperature	150–250°C (300–480°F)
Brazing Temperature	950–1050°C (1742–1922°F)
Cooling	Slow cooling in still air

Packaging & Ordering Information



Item	Specification
Rod Diameter	Ø12 / Ø16 / Ø22 mm
Standard Length	280 / 350 / 450 mm
Packaging	Protective tube packaging
Custom Size	Available upon request

Standard Packaging: 5 kg (net weight) in a sealed plastic bag with product label, packed in a cardboard box. Five boxes per master carton. Standard packaging configuration may be customized upon request.