



Sintered Tungsten Carbide Hardfacing  
Electrode for a Variety of Steels

# **EutecTrode®**

## **4914**



- Ultra-hard complex carbides for exceptional abrasion resistance
- Extremely hard and smooth deposits
- Easy to strike with minimal slag residues

# 4914

EutecTrode 4914 is a dip-coated manual metal arc welding electrode comprised of a sintered tungsten carbide in a FeCrC matrix with niobium and chromium additives.

4914 is designed to be used where hard, wear resistant overlay deposits are needed and where impact is minimal. Deposits of 4914 resist wear by abrasion, erosion from sand and other hard minerals, and metal-metal friction. The wear performance is good even after just one layer and deposits withstand up to 930°F (500°C).

EutecTrode 4914 may be used on nearly all steel substrates like mild steels, cast steels, low alloyed and high Mn steels. It is also appropriate for use on thin-walled metals and edges.

## TECHNICAL DATA

### Typical Values

Hardness 1st Layer:	63 - 66 HRC
Hardness 2nd Layer:	66 - 70 HRC
Weld Deposit Density:	12.2 g/cm <sup>3</sup>
Service Temperature:	930°F (500°C)
Positions:	Flat and Horizontal
Current & Polarity:	DC+ (reverse polarity)

DIAMETER	5/32" (4.0mm)
AMPERAGE	150-170

## PROCEDURE FOR USE

**PREPARATION:** Remove all damaged and fatigued base material and where possible remove sharp corners.

**PREHEATING:** Before welding, a slow, uniform preheat to a temperature of 212°F to 392°F (100°C to 200°C) is recommended to avoid delayed cracking, depending on the substrate composition.

**GENERAL GUIDE:** Preheating will depend upon type, size and carbon equivalent of the base material. For steels with a carbon equivalent of up to 0.25% preheating is not essential. However, heating up to 212°F (100°C) may be applied. For steels between 0.25% and 0.45% carbon equivalent, preheating between 212°F and 482°F (100°C and 250°C) is recommended. Steels above 0.45% carbon equivalent, preheating between 482°F and 662°F (250°C and 350°C) is recommended.

**Do not preheat austenitic manganese steels. Maintain components as cool as possible, and employ a balanced welding technique, in order to avoid local overheating.**

**WELDING:** Select the lowest possible amperage when depositing direct to the base material, using a short arc. When necessary, nearly vertical welding can be accomplished. For hardenable steels use a buffer layer.

**POST WELDING:** Deposits are not machinable or forgeable, but can be ground to dimension or finished with diamond tools.

## TYPICAL APPLICATIONS

For protecting components against abrasion and erosion, typically used in mining and ceramics industries. Suitable for a wide range of steels including low alloy steels, medium carbon steel, high alloy steels, tool steels and cast steels.

- Conveyor Screws for brick production
- Mixer Blades used for concrete, clays and other minerals
- Brick Manufacturing and Clay Processing Equipment
- Press Augers
- Mixers
- Breaker Housings
- Screen Centrifuges
- Fans



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