



Versatile Electrode for Welding  
Carbon and Manganese Steels

# Xuper® 646 XHD



- Excellent choice for joining and hardfacing carbon and manganese combinations
- High impact and crack resistance
- High deposition rates
- Slag is easily removed

# Xuper® 646 XHD

Xuper 646 XHD electrodes produce weld deposits capable of withstanding high impact that are highly resistant to cracking. These unusual properties give Xuper 646 XHD the versatility to serve as a joining electrode as well as an electrode for wear protection or cushion layer applications.

Xuper 646 XHD deposits work-harden in service and produce excellent results on carbon, manganese or dissimilar combinations of these steels.

## TECHNICAL DATA

Typical Values	
Tensile Strength:	88,000 psi
Hardness:	HRB 95 as deposited HRC 30 work hardened
Current:	AC/DCEP (+)

### SUGGESTED WELDING PARAMETERS:

A Range Thick sections, heavy build-up (multi-pass)

Diameter	Amperage
1/8" (3.2mm)	140 - 180
5/32" (4.0mm)	180 - 250

B Range Moderate sections

Diameter	Amperage
1/8" (3.2mm)	90 - 130
5/32" (4.0mm)	120 - 160

## PROCEDURE FOR USE

**PREPARATION:** Clean weld area. Remove all damaged and fatigued metal, cracks and sharp corners. (Xuper Exotrode® is recommended).

**TECHNIQUE:** When joining heavy sections, bevel and preheat according to carbon content and hardenability.

Use AC/DCEP (+) with "A" range for highest deposition rate. Maintain medium arc. Tilt electrode in direction of travel. Weaving should be limited to 1 1/2x the electrode diameter. Back whip and fill craters.

**DO NOT HEAT 12% MANGANESE STEEL OVER 400°F (204°C).**

**POST-WELDING:** Slow cool after welding using insulating material such as vermiculite or heat-retardant blankets.

## TYPICAL APPLICATIONS

- Bucket Lips & Sides
- Manganese Filler Bars
- Conveyor Buckets
- Ripper Shanks
- Dozer Cutting Edges
- Screw Conveyor Flights
- Loader Scoops
- Wheel Flanges

Observe normal welding practices, respiratory protection and proper air flow pattern advised. For general welding practices, see AWS publications Z49.1 "Safety in Welding and Cutting and Allied Process". Welding is a completely safe process when performed in accordance with proper safety measures. Become familiar with local safety regulations before beginning welding operations. DO NOT operate welding equipment or use welding materials before you have thoroughly read the proper instruction manual(s). Please refer to the Eutectic internet site for Material Safety Data Sheet (MSDS) information. DISREGARDING THESE INSTRUCTIONS, AND/OR THE INSTRUCTIONS OF WELDING EQUIPMENT OR MATERIAL MANUALS, MAY BE HAZARDOUS TO YOUR HEALTH.



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