



**A High Manganese Electrode with Added  
Nickel for Optimum Resistance  
to Both Impact and Compression**

# **EutecTrode<sup>®</sup> 40**



- Resists impact and spalling
- Excellent for build-up and joining of manganese castings
- All-positional welding with good slag removal
- Work hardens in service for extended wear-life

# EutecTrode® 40

EutecTrode 40 is ideal for applications involving severe impact and heavy compressive loads. Deposits work harden in service for extended service life.

## TECHNICAL DATE

Typical Values	
Typical Tensile Strength:	115,000 psi (760 N/mm <sup>2</sup> )
Typical Yield Strength:	60,000 psi (415 N/mm <sup>2</sup> )
Typical hardness as-deposited:	85-90 HRB
Typical Work Hardened Hardness:	40-45 HRC
Current & Polarity:	AC or DCEP (+)
Forgeability:	Deposits can be forged if needed
Maximum Number of Passes:	Unlimited but practical at 2-in (50mm)

DIAMETER	1/8" (3.2mm)	5/32" (4.0mm)	3/16" (4.8mm)
Amp	85-125	130-170	150-220

## PROCEDURE FOR USE

### PREPARATION

Clean weld area of scale and/or oxide. A nominal preheat of 150°F is advised if part is below 40°F or over 1" thick. For higher carbon steels higher preheats will be needed. Check the Reference Section of your Eutectic Product Data Book regarding specific preheating levels for specific steel grades.

*Note: Do not preheat or allow Hadfield manganese steel castings to go above 400°F as this will cause time-temperature embrittlement. Use back-stepping or skip-welding to reduce overheating. When welding higher carbon or alloy steels deposit a cushion layer using XHD™ 6868.*

### WELDING TECHNIQUE

Maintain a 75° angle from the vertical in the direction of travel. Do not weave excessively. Wide beads can cause porosity, excessive base metal overheating, and degrade the weld deposit wear properties. Back whip craters to reduce crater-cracking tendencies and potential crater out-gassing.

### POST WELDING

Allow parts to slow cool in still air. Higher carbon and large parts should be covered with a heat-retardant blanket.  
*Note: Manganese castings can be cooled more rapidly by using air quenches.*

### Regarding Impact and Compressive Wear

*Weld metal: should be tough and work harden under impact and high compressive loads.*

*Pre-harden: best results are obtained if the weld deposit is part work-hardened prior to service.*

## TYPICAL APPLICATIONS

- Impact hammers
- Impeller bars
- Ball-mill scoops
- Shovel teeth
- Manganese cast rail frogs & crossovers
- Crusher rolls
- Grizzly bars
- Breaker bars
- Latch-bar keeps

