

MAGNA 401 AC-DC

An electrode for wear resistance which has the following unique properties:

- 1. Complex Research Formulation.** Magna 401 consists of a tough shock resistant ferritic matrix which has super hard crystals of quartz-like compounds, silicides and carbides. The carbides and silicides are very fine and evenly dispersed throughout the deposit. This structure makes it possible for Magna 401 to withstand both impact and abrasion. The tough matrix absorbs the shock while the fine carbides resist abrasion. The carbides and silicides precipitate spontaneously as the electrode is deposited. For a wide range of general purpose applications, this electrode outwears ordinary hard facing rods up to 4 to 1.
- 2. Super Weldability.** Magna 401 can be deposited pass-over-pass without slag removal. The slag has a light viscosity and it is not necessary for the welder to remove slag between passes. The electrode is completely stable at low current settings and performs well on AC.

Magna 401 can be applied in vertical and overhead positions. This is unique for a hard surface electrode since most are adaptable only to flat position welding. This feature makes it possible to overlay equipment in position without dismantling. There is no spatter, no porosity and slag is easily removed. Magna 401 can be cut with oxyacetylene torch when desired.

- 3. Positively Non-Cracking.** Many cheap hard surface electrodes check and crack. Naturally their ability to provide service is handicapped by the cracks and generally the cracks propagate and cause a complete breakdown of the equipment. Magna 401 does not crack even if applied in large volume and even if applied rapidly, it requires no cushion of buffer layer. The deposit is so tough that it will not crack even without cushioning.
- 4. Remarkable Wear Resistance.** Numerous wear tests have proven that Magna 401 will outwear any hard facing rod in its class. The fact that it withstands both abrasion and impact makes it especially outstanding. It can be used where the exact nature of the exact type of wear is not known. It

does not lose wear resistance in multi layer applications as ordinary hard facing rods do.

APPLICATION

Magna 401 provides excellent arc characteristics using DC Straight Polarity (electrode negative), DC Reverse Polarity (electrode positive) or AC (alternating current). It has a high deposition rate.

Because of its unique coating, with Magna 401 unusually high amperages can be employed without excessive penetration and without overheating the electrode. An exceedingly smooth overlay results. In manufacture, Magna 401 is baked at high temperature for a long period of time and the coating is all mineral, thus no underbead cracking occurs. There is virtually no spatter and slag is easily removed.

Magna 401 can be used on Carbon Steels and Low Alloy Steel as well as most abrasion-resistant steels.

A slight weaving is preferred in application. Alloy steels and high carbon steels should be pre-heated. Magna 401 can be used in all positions, flat, vertical and overhead.

AMPS Required	Flat	Overhead	Vertical
1/8"	120-160	120-160	100-130
5/32"	150-200	140-190	120-150

Area covered per pound 1/8" depth - 26 sq. inches.

The weld cannot be machined but can be forged or heat-treated.

Typical Applications

Ditcher Rollers
Tractor Rollers
Tractor Idlers
Elevator bucket lips
Shovel Rollers
Dragline bucket pins and links

Dredge Speed Points
Dredge Driving Tumblers
Cane Brake Drums
Mill Brake Drums
Shovel Idlers
Cable Sheaves
Cable Sheaves Shafts
Shovel latch pins and keepers
Shovel bottom heels