

Cavitec SMA

Manual Metal Arc Electrode Highly Resistant To Cavitation And Corrosion

DESCRIPTION

Specialized, low heat input manual arc electrode for depositing a proprietary alloy system engineered to resist severe cavitation attack and corrosion. Formulation was developed, tested and patented by Hydro-Quebec under the trade name Ireca and exclusively licensed by Eutectic+Castolin for manufacture and distribution under the designation Cavitec. Cavitec represents a new alloy system concept around a high strength cobalt alloyed austenitic stainless steel for combating intense cavitation damage and corrosion often occurring in hydraulic engineering fields such as Francis, Kaplan and pump turbines. Over a decade of practical service trials by Hydro-Quebec, Montreal, Canada, has clearly confirmed the superior performance of Cavitec on hydraulic equipment parts as originally demonstrated by different laboratory tests.

Product Details

The ferrous based Cavitec alloy system uses a precise balance of Cr, Co, Si, Mn, Ni element additions to promote the formation of micro crystalline grains characterized by low stacking fault energies. This means that energy absorbing mechanisms such as planar slip, grain twinning, and rapid strain hardening are favored within the atomic lattice structure thus effectively dampening the intense shock wave impulses generated by cavitation.

The special basic flux coating facilitates weldability in position to give smooth, regular bead deposits which are easily machined or ground to final dimensions.

APPLICATIONS

Mainly for preventive and repair coatings on Francis, Kaplan and pump turbines as well as other hydraulic machine parts subject to wear by cavitation in the following industries: Water pumping, irrigation, water treatment plants. Desalination plants and heat exchangers. Thermal power stations, Chemical pump rotors, casings, Valves. Marine, Ship propellers, Paper mills, Sugar mills.

PROCEDURE FOR USE

Preparation: The welding area should be cleaned to remove all traces of contamination by rust, oxides, grease, paint etc. All fatigued or damaged metal, cracks or prior deposits should be removed by grinding or by using ExoTrod 4 to leave rounded edges.

Preheating: Generally, not needed. If used, should be adapted to suit the supplier's recommendations of the base material, size of work piece and coating thickness requirements.

Machining : Machinable with carbide tipped tools, easily grindable to polish finish and may be plasma cut.

TECHNICAL DATA

Typical Hardness

As deposited: 26-28 HRC

Work hardened: 43-45 HRC

Current polarity: AC/DC (+)

DIAMETER	AMPERAGE
2.5mm	80-100
3.2mm	100-140
4.0mm	140-180

Note: For optimum result use the lowest amperage practical

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